

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample USCS	SOIL DESCRIPTION
0						4" asphalt concrete, 4" aggregate base.
2						BROWN SANDY GRAVEL WITH TRACE SILT (GP) moist, very dense, fine to coarse sand, fine to coarse gravel, rounded to subrounded, approximately 2" max size.
4						
6		9.0	29			BROWN CLAYEY SANDY GRAVEL (GC) moist, medium dense, low to medium plastic fines, fine to coarse sand, fine to coarse gravel, angular to subangular, approximately 2" max size.
8						GRAY BROWN SANDY GRAVEL WITH TRACE SILT (GP) dry to moist, medium dense to dense, low plastic fines, fine to coarse sand, fine gravel, angular to subrounded, approximately 3/4" max size.
10						
12						
14		▽ 7.9	32			
16			35			Medium dense to dense. End of boring at 16.5'.
18						
20						
22						
24						
26						
28						
30						
32						
34						

DATE: 8-14-99
TOTAL DEPTH: 16.5 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADDEX DRILL RIG



KLEINFELDER

RENO RAILROAD CORRIDOR

RENO, NEVADA

LOG OF B-1

PLATE

A5

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample USCS	SOIL DESCRIPTION
0						ORANGE BROWN TO DARK BROWN SILTY SAND (SM) dry to moist, medium dense to dense, low plastic fines, fine to medium sand.
2		7.8		23		
4						
6						DARK BROWN SILTY SANDY GRAVEL (GC) moist (wet at 5.0 from driller), dense to very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subrounded, approximately 2" max size, occasional cobbles approximately 4" max size, red mottling.
8		22.2		43		DARK BROWN SILTY SAND (SM) moist, medium dense, low plastic fines, fine sand, trace organics.
10						ORANGE BROWN CLAYEY SAND (SC) wet, medium dense, low plastic fines, fine sand.
12						ORANGE BROWN CLAYEY GRAVEL (GC) moist to wet, dense, low plastic fines, fine coarse gravel rounded to subrounded approximately 1-1/2" max size, some fine coarse sand.
14		8.7		13		Color grades to olive gray at 10'. ORANGE BROWN CLAYEY SAND (SC) moist to wet, medium dense to dense, low plastic fines, fine clayey sand, frequent cobbles approximately 5" max size.
16						BROWN SANDY GRAVEL WITH SILT (GM) moist to wet, dense, fine clayey sand, fine clayey gravel, rounded to subrounded, approximately 3" max size, frequent cobbles approximately 5" max size (sieve performed on soil matrix).
18						End of boring at 15'.
20						
22						
24						
26						
28						
30						
32						
34						

DATE: 8-13-99
TOTAL DEPTH: 15.0 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4525 feet



KLEINFELDER

RENO RAIL CORRIDOR

RENO, NEVADA

LOG OF B-2

PLATE

A6

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e USCS	SOIL DESCRIPTION
0						BROWN SILTY GRAVELLY SAND (FILL) dry, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, angular to subrounded, frequent cobbles, approximately 10" max size.
2						
4						RED BROWN SANDY GRAVEL WITH TRACE SILT (GP) moist, medium dense, fine to coarse sand, fine to coarse gravel, angular to subrounded, approximately 2" max size, low plastic fines. No recovery at 8'.
6						
8			29			
10						
12	7.6		35/3"			Very dense. RED BROWN CLAYEY SANDY GRAVEL (GC) moist, medium dense, low to medium plastic fines, fine to coarse sands, fine gravel, subangular, approximately 1" max size.
14						
16			18			
18						End of boring at 16.5'.
20						
22						
24						
26						
28						
30						
32						
34						

DATE: 8-14-99
TOTAL DEPTH: 16.5 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADDEX DRILL RIG



KLEINFELDER

RENO RAILROAD CORRIDOR

RENO, NEVADA

LOG OF B-3

PLATE

A7

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	USCS	SOIL DESCRIPTION
0						YELLOW BROWN SILTY CLAYEY SAND (SC) slightly moist, low plastic fines, fine sand, some subrounded and subangular gravel up to 2" diameter.
2						GRAY BROWN CLAYEY SAND (SC) slightly moist, low plastic fines, fine to medium sand, some subrounded and subangular gravel up to 3.5" diameter.
4		6.2		26		DARK BROWN GRAVELLY SILTY SAND (SM) slightly moist, non-plastic fines, predominately fine sand, angular gravel up to 1-1/2" diameter, trace black discoloring at 4' to 5.5'.
6						OLIVE BROWN CLAYEY SAND (SC) slightly moist, low plastic fines, fine sand.
8						OLIVE BROWN SAND (SP-SW) slightly moist, fine to coarse sand.
10						
12						GRAY GRAVEL AND COBBLES (GP) slightly moist, angular gravel and cobbles up to 4" diameter. OLIVE BROWN SAND (SP) moist, fine to coarse sand.
14						
16						YELLOW BROWN SILTY SAND (SM) slightly moist, non-plastic fines, fine to medium sand, trace angular fine gravel.
18				12		GRAY BROWN SILTY SAND (SM) wet, non-plastic fines, fine to coarse sand.
20						OLIVE GRAY CLAYEY SAND (SC) moist, low plastic fines, fine to medium sand, occasional rounded gravel up to 2" diameter.
22						GRAY BROWN SAND (SP) slightly moist, predominately fine sand.
24						BROWN SILTY SANDY GRAVEL (GM) slightly moist, non-plastic fines, fine sand, subangular gravel up to 2" diameter, occasional cobbles up to 5" diameter.
26						End of boring at 25'.
28						
30						
32						
34						

DATE: 8-13-99
TOTAL DEPTH: 25.0 feet

LOGGED BY: M. DOEHRING
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4527 feet



KLEINFELDER

RENO RAIL CORRIDOR

RENO, NEVADA

LOG OF B-4

PLATE

A8

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e USCS	SOIL DESCRIPTION
0						2" asphalt concrete.
2						2" base coarse (3/4" minus crushed rock).
4		7.9	21	13		BROWN TO ORANGE BROWN GRAVELLY SAND WITH CLAY (SC) medium dense, moist, approximately 30% gravel and 10% cobbles.
6			30	78		BROWN SANDY SILTY CLAY (CL) very stiff, moist, medium plastic fines.
8						
10			80			SANDY GRAVEL AND COBBLES WITH TRACECLAY (GP) very dense, moist, approximately 40-50% gravel and cobbles.
12						Refusal on cobble at 12'.
14						No free water encountered.
16						
18						
20						
22						
24						
26						
28						
30						
32						
34						

DATE: 8-26-99
TOTAL DEPTH: 12.0 feet

LOGGED BY: W. HEGGE
EQUIPMENT: CME 55 AUGER DRILL RIG



KLEINFELDER

RENO RAIL CORRIDOR

RENO, NEVADA

LOG OF B-6

PLATE

A9

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e USCS	SOIL DESCRIPTION
0						BROWN SANDY CLAY (CL) moist, hard, low to medium plastic fines, fine sand.
2		19.7		71		
4						
6						DARK BROWN SILTY SAND (SM) moist, non-plastic fines, fine sand, small subrounded gravel.
8		6.1		12		GRAY SANDY GRAVEL (GP) moist, fine to coarse sand, subrounded gravel up to 2" diameter. BROWN CLAYEY SAND (SC) moist to wet, low plastic fines, fine to coarse sand, some subangular gravel up to 3/4" diameter.
10						OLIVE BROWN SANDY GRAVEL (GP) moist, fine to coarse sand, subrounded and subangular gravel up to 3" diameter.
12						OLIVE BROWN SAND (SP) moist, fine to coarse sand, some fine subrounded gravel.
14						GRAY SANDY GRAVEL (GP) moist to wet, fine to coarse sand, subrounded gravel, cobbles up to 5" diameter.
16						OLIVE BROWN CLAYEY SANDY GRAVEL (GC) wet, low plastic fines, fine to coarse sand, subrounded to subangular gravel, cobbles up to 6" diameter.
18		80.1		99		OLIVE BROWN SILTY SANDY GRAVEL (GM) moist, estimated 10-20% non-plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 6" diameter. YELLOW GRAY CLAY (CH) moist, high plastic fines.
20						BROWN CLAYEY SANDY GRAVEL (GC) moist, low plastic fines, fine to coarse sand, subrounded gravel, cobbles up to 7" diameter, yellow mottling from approximately 19.5' to 20'
22						GRAY SANDY GRAVEL (GP) moist, coarse sand, subrounded gravel up to 3" diameter.
24						Single cobble 7" diameter below 25'.
26						LIGHT BROWN SILT (ML) moist, low plastic fines, trace red mottling.
28		▽		6		OLIVE BROWN SANDY GRAVEL WITH CLAY (GP-GC) moist to wet, medium plasticity fines, fine to coarse sand, subrounded gravel and cobbles up to 4" diameter.
30						Yellow brown mottling below 30'.
32						GRAY ANDESITIC BOULDER up to 12" diameter.
34						GRAY CLAYEY GRAVEL WITH SAND (GC) moist to wet, low to medium plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subrounded, approximately 3" max size, occasional cobbles approximately 4" max size.

DATE: 8-14-99
TOTAL DEPTH: 40.0 feet

LOGGED BY: M. DOEHRING
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4523 feet



KLEINFELDER

RENO RAIL CORRIDOR



RENO, NEVADA

LOG OF B-7

PLATE

A10

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
36							GRAY ANDESITIC BOULDER up to 16" diameter. Perimeter of core covered with gray silty clay.
38							GRAY BROWN CLAYEY SAND WITH GRAVEL (SC) wet, dense to very dense, low to medium plastic fines, fine to coarse sand, fine gravel, rounded to subrounded, approximately 1/2" max size.
40							End of boring at 40'.
42							
44							
46							
48							
50							
52							
54							
56							
58							
60							
62							
64							
66							
68							
70							

DATE: 8-14-99
TOTAL DEPTH: 40.0 feet

LOGGED BY: M. DOEHRING
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4523 feet



KLEINFELDER

RENO RAIL CORRIDOR

RENO, NEVADA

LOG OF B-7

PLATE

A10

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	USCS	SOIL DESCRIPTION
0						Approximately 4" of 3/4" crushed rock.
2						BROWN SANDY SILTY GRAVEL (GM) dry, dense, fine to medium sand, fine gravel approximately 1/2" max size, subangular to subrounded.
4						
6		4.0	31	3		BROWN SAND (SP) moist, dense, fine to medium sand, trace fines with some gravel, fine gravel, angular to subrounded, approximately 3/4" max size.
8						
10						
12			44/4"			BROWN SANDY GRAVEL (GP) moist, very dense, approximately 30-40%, fine to coarse sand, fine to coarse gravel, angular to subangular, approximately 3" max size.
14						BROWN SAND (SP) moist, dense, fine to medium sand.
16			30/3"			LIGHT BROWN SILTY SANDY GRAVEL WITH COBBLES (GM) dry to moist, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, angular to subrounded, approximately 2" max size, frequent cobbles approximately 6" max size.
18						
20						
22						
24						
26						BROWN SILTY SANDY GRAVEL (GM) moist to wet, very dense, low plastic fines, fine to coarse sand, fine gravel, rounded to subangular, approximately 1" max size.
28		12.0	24/3"	15		
30						
32						
34			31/2"			BROWN SANDY GRAVEL WITH TRACE CLAY (GP) wet,

DATE: 8-24-99
TOTAL DEPTH: 41.5 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADDEX DRILL RIG



KLEINFELDER

RENO RAILROAD CORRIDOR


RENO, NEVADA

LOG OF B-8

PLATE

A11

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e USCS	SOIL DESCRIPTION
36						very dense, low to medium plastic fines, fine to coarse sand, fine to coarse gravel, angular to subrounded, approximately 1" max size.
38						LIGHT BROWN SILTY SANDY GRAVEL (GM) wet, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, subrounded to angular, approximately 2" max size.
40						
42			36/3"			End of boring at 41.5'.
44						
46						
48						
50						
52						
54						
56						
58						
60						
62						
64						
66						
68						
70						

DATE: 8-24-99
TOTAL DEPTH: 41.5 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADDEX DRILL RIG



KLEINFELDER

RENO RAILROAD CORRIDOR

RENO, NEVADA

LOG OF B-8

PLATE

A11

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample USCS	SOIL DESCRIPTION
0						BROWN SANDY GRAVEL (FILL) dry, dense, fine to coarse gravel, angular to subrounded, approximately 1" max size, occasional cobbles approximately 4" max size, trace silt.
2						
4						BROWN GRAVELLY SILT (FILL) dry, medium stiff to stiff, low plastic fines, fine gravel, subangular, approximately 3/4" max size.
6						
8	89	9.5	50/4"			GRAY BROWN SANDY GRAVEL WITH TRACE SILT (GP) moist, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, subangular approximately 1" max size.
10						BROWN SILTY GRAVELLY SAND (SM) dry to moist, very dense, fine to coarse sand, fine gravel, subangular to subrounded, approximately 1/2" max size, low plastic fines.
12						
14						Increased moisture content at 14'.
16			29/1"			BROWN GRAY SANDY GRAVEL (GP) moist, very dense, fine to coarse sand, fine gravel, subrounded to subangular, approximately 1/2" max size.
18						GRAY SANDY GRAVEL (GW) wet, very dense, fine gravel, subrounded to subangular, approximately 2" max size.
20	108	2.9	48/3"	3		GRAY BOULDER at 20' approximately 4' max size.
22						
24						GRAY BROWN SANDY GRAVEL (GP) moist, very dense, fine to coarse sand, fine gravel, subangular to subrounded, approximately 3/4" max size.
26						GRAY BOULDER at 26', approximately 18" max size.
28						
30		2.0	41/4"	6		BROWN SANDY GRAVEL WITH SOME SILT (GP-GM) wet, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subangular, approximately 1.5" max size.
32						BROWN GRAVELLY SAND (SW) wet, very dense, fine to coarse sand, fine gravel, subrounded to subangular, approximately 1/4" max size, trace fines.
34						

DATE: 8-11-99
TOTAL DEPTH: 39.5 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADDEX DRILL RIG



KLEINFELDER

RENO RAILROAD CORRIDOR



RENO, NEVADA

LOG OF B-9

PLATE

A12

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
36	130	9.2	123	9			BROWN SANDY GRAVEL WITH SILT (GM-GP) wet, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, angular to subrounded, approximately 1.5" max size.
38							GRAY SILTY SAND (SM) wet, very dense, low plastic fines, fine to medium sand. No sample recovery at 39'.
40			64/5"				End of boring at 39.5'.
42							
44							
46							
48							
50							
52							
54							
56							
58							
60							
62							
64							
66							
68							
70							

DATE: 8-11-99
TOTAL DEPTH: 39.5 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADDEX DRILL RIG



KLEINFELDER

RENO RAILROAD CORRIDOR

RENO, NEVADA

LOG OF B-9

PLATE

A12

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	USCS	SOIL DESCRIPTION
0						GRAY BROWN SILTY SANDY GRAVEL (GM) moist to wet, non-plastic fines, fine to coarse sand, subrounded gravel up to 1" diameter.
2						BLACK SILTY SANDY GRAVEL (GM) moist, non-plastic fines, fine to coarse sand, subrounded gravel up to 2" diameter.
4						
6						GRAY BROWN CLAYEY SAND WITH GRAVEL AND COBBLES (SC) slightly moist to moist, low plastic fines, fine to coarse sand, subrounded gravel, cobbles up to 6" diameter.
8						GRAY BROWN CLAYEY SAND (SC) moist, moderate plasticity fines, fine sand.
10						YELLOW BROWN SILTY SAND WITH GRAVEL (SM) moist, non to low plastic fines, fine sand, trace subrounded gravel up to 3/4" diameter.
12		8.7		13		
14						OLIVE BROWN CLAYEY SAND (SC) moist, low plastic fines, fine sand.
16						OLIVE BROWN SAND WITH GRAVEL (SP) moist, fine to medium sand, subrounded to subangular fine gravel.
18						OLIVE GRAY SILTY SANDY GRAVEL (GM) slightly moist, non-plastic fines, fine to coarse sand, fine to coarse subrounded gravel up to 3" diameter.
20						
22						OLIVE BROWN SILTY SANDY GRAVEL (GM) moist, medium dense to dense, low plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subangular, approximately 3" max size.
24				29		REDDISH PURPLE ANDESITE BOULDER very dense, approximately 14" max size.
26						ORANGE BROWN SILTY GRAVELLY SAND WITH TRACE CLAY (SM) moist, dense to very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subangular, approximately 1.5" max size.
28						BROWN TO ORANGE BROWN SILTY SAND WITH GRAVEL (SM) moist, dense, fine to coarse sand, fine gravel, subangular, approximately 3/4" max size.
30						GRAY BROWN SANDY GRAVEL AND COBBLES (GP) moist, very dense, fine to coarse gravel, subangular to rounded, approximately 3" max size, andesite and granite cobbles subrounded approximately 6" max size, low to medium plastic fines, fine to coarse sand.
32						
34		▽		2		

DATE: 8-14-99
TOTAL DEPTH: 40.0 feet

LOGGED BY: M. DOEHRING
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4519 feet



KLEINFELDER

RENO RAIL CORRIDOR


RENO, NEVADA


LOG OF B-10

PLATE


A13

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
	36						
38							GRANITIC BOULDER approximately 17" to 18".
40							OLIVE BROWN SANDY GRAVEL AND COBBLES (GP) moist to wet, very dense, trace low plastic fines, fine to coarse sand, fine to coarse gravel, subrounded, approximately 3" max size, cobbles rounded approximately 6" max size.
42							End of boring at 40'.
44							
46							
48							
50							
52							
54							
56							
58							
60							
62							
64							
66							
68							
70							
DATE: 8-14-99		TOTAL DEPTH: 40.0 feet		LOGGED BY: M. DOEHRING		EQUIPMENT: SONIC DRILL RIG	
				ELEVATION: Approx. 4519 feet			
 KLEINFELDER				RENO RAIL CORRIDOR RENO, NEVADA LOG OF B-10			
PROJECT NO. 30-1307-10.001				PLATE A13			

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							BROWN SILTY GRAVEL (GM) moist, medium dense, low plastic fines, fine to coarse sand, fine gravel, rounded to subrounded, 1/2" max size.
2							DARK BROWN CLAYEY SAND (SC) moist, medium dense, low to medium plastic fines, fine to coarse sand, orange mottling.
4							Sand grades fine to medium below 3'.
6							ORANGE BROWN SANDY GRAVEL WITH CLAY AND SILT (GC-GM) moist, medium dense, low plastic fines, fine to coarse sand, fine to coarse gravel, subrounded to subangular approximately 2" max size.
8							6" cobble at 7.5'.
10		7.1		9			BROWN SILTY SAND WITH SOME GRAVEL (SP-SM) moist, medium dense, low plastic fines, fine to coarse sand.
12							Sand grades to fine to medium from 10' to 14'.
14							Increased coarse sand to fine gravel below 14'.
16							ANDESITE BOULDER approximately 16" max size.
18							GRAY SANDY GRAVEL (GP) dry to moist, dense to very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, angular to subangular, approximately 2" max size, color changes to orange brown at 17'.
20		6.3		9			BROWN SAND (SP) moist, medium dense to dense, fine to coarse sand.
22		▽					BROWN SANDY GRAVEL WITH CLAY (GP-GC) moist, dense, low to medium plastic fines, fine to coarse sand, fine to coarse gravel, angular to subangular, 1-1/2" max size.
24							GRAY BROWN SANDY GRAVEL WITH SILT (GM-GP) dry to moist, dense to very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, angular to subrounded, 2" max size.
26		4.7		10			
28							ORANGE BROWN CLAYEY GRAVEL WITH SAND (GC) moist to wet, dense to very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, angular to subrounded, 2" max size.
30							
32							
34							
DATE: 8-22-99 TOTAL DEPTH: 40.0 feet							LOGGED BY: K. NEUMAN EQUIPMENT: SONIC DRILL RIG ELEVATION: Approx. 4519 feet
 KLEINFELDER						RENO RAIL CORRIDOR RENO, NEVADA LOG OF B-11	
PROJECT NO. 30-1307-10.001						PLATE A14	

DEPTH IN FEET

	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e USCS	SOIL DESCRIPTION
36						<u>DARK OLIVE BROWN SILTY GRAVEL WITH SAND (GM)</u> moist to wet, dense to very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, angular to subrounded, 3/4" max size. 2" to 3" coarse gravel, angular to rounded.
38						
40		6.3		21		End of boring at 40'
42						
44						
46						
48						
50						
52						
54						
56						
58						
60						
62						
64						
66						
68						
70						

DATE: 8-22-99
TOTAL DEPTH: 40.0 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4519 feet



KLEINFELDER

RENO RAIL CORRIDOR

RENO, NEVADA

LOG OF B-11

PLATE

A14

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e U S C S	SOIL DESCRIPTION
0				36		BROWN CLAYEY SAND (SC) moist, low to medium plastic fines, predominantly fine sand, some fine subrounded gravel, trace white mottling below 2'.
2						
4						DARK BROWN/OLIVE BROWN SILTY SAND (SM) moist, fine sand.
6						
8						
10		7.5		12		With subrounded gravel from 7' to 11' up to 1" diameter.
12						
14						OLIVE BROWN SANDY GRAVEL (GP) moist, fine to coarse sand, subrounded gravel, cobble up to 6" diameter.
16						GRAY ANDESITE BOULDER approximately 1' diameter.
18						OLIVE BROWN SANDY GRAVEL (GP) moist, fine to coarse sand, rounded gravel and cobbles up to 4' diameter.
20						DARK BROWN CLAYEY SANDY GRAVEL (GC) moist, approximately 15-25% low plastic fines, fine to coarse sand, subangular gravel up to 3" diameter.
22						GRAY GRANITE AND PINK ANDESITE COBBLES AND BOULDERS up to 15" diameter.
24						OLIVE BROWN CLAYEY SANDY GRAVEL (GC) moist, approximately 15-25% low plastic fines, fine to coarse sand, subrounded to subangular gravel up to 2" diameter.
26						GRAY/BLACK SANDY GRAVEL (GP) moist, fine to coarse sand, subrounded gravel up to 1-1/2" diameter.
28		8.8		7		DARK BROWN SAND (SP) moist to wet, fine sand.
30						DARK BROWN SILTY SAND (SM) moist to wet, approximately 15-25% non plastic fines, fine sand.
32						BROWN SANDY GRAVEL WITH SOME CLAY (GP-GC) moist to wet, medium plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 6" diameter, yellow brown mottling at 30'.
34						BROWN SAND (SP) moist to wet, fine to coarse sand, frequent lenses of silt.
						OLIVE BROWN CLAYEY SANDY GRAVEL (GC) moist, approximately 10-20% low plastic fines, fine coarse sand,

DATE: 8-14-99
TOTAL DEPTH: 40.0 feet

LOGGED BY: M. DOEHRING
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4516 feet



KLEINFELDER

RENO RAIL CORRIDOR





RENO, NEVADA

LOG OF B-12

PLATE

A15

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
36							subrounded and subangular gravel and cobbles up to 4" diameter.
							GRAY GRANITIC BOULDER up to 18" diameter.
38							OLIVE BROWN SANDY GRAVEL (GP) wet, fine to coarse sand, subround gravel up to 2" diameter.
40		16.0		16			BROWN CLAYEY GRAVELLY SAND (SC) wet, low plastic fines, fine to coarse sand, some fine rounded gravel up to 1" diameter, frequent low plasticity, light brown, silty clay seams, yellow brown mottling.
42							End of boring at 40'.
44							
46							
48							
50							
52							
54							
56							
58							
60							
62							
64							
66							
68							
70							

DATE: 8-14-99
TOTAL DEPTH: 40.0 feet

LOGGED BY: M. DOEHRING
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4516 feet



KLEINFELDER

RENO RAIL CORRIDOR

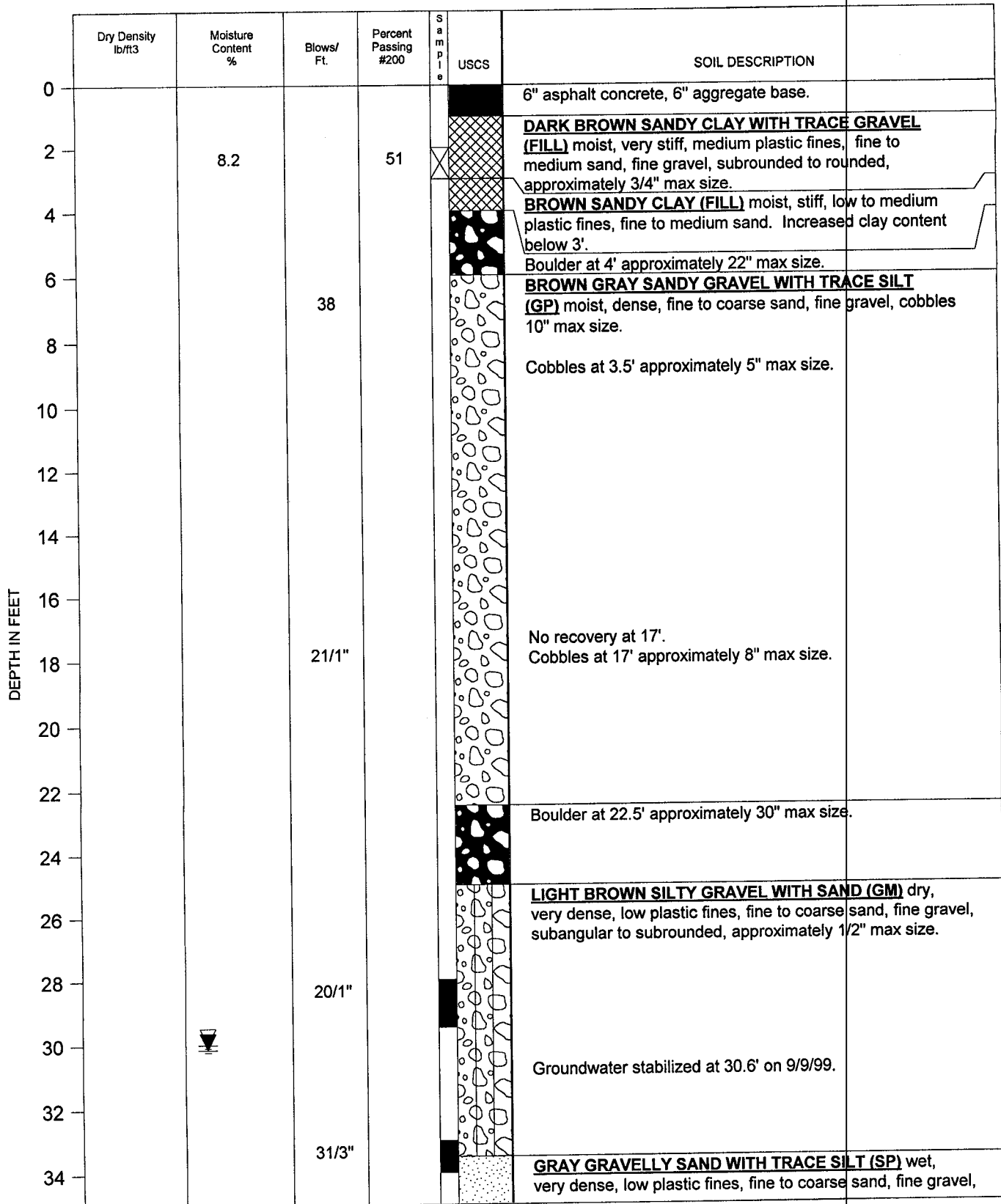
RENO, NEVADA

LOG OF B-12

PLATE

A15

PROJECT NO. 30-1307-10.001



DATE: 8-12-99
TOTAL DEPTH: 40.0 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG



KLEINFELDER

RENO RAILROAD CORRIDOR

RENO, NEVADA

LOG OF B-14

PLATE


A16


PROJECT NO. 30-1307-10.001


DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
	36	112	7.6	52 1/4"			
38	GRAY SILTY SAND WITH TRACE GRAVEL (SP-SM) wet, very dense, fine to coarse sand, fine gravel, subrounded to subangular, approximately 3/4" max size, low plastic fines.						
40							End of boring at 40'. Well installed.
42							
44							
46							
48							
50							
52							
54							
56							
58							
60							
62							
64							
66							
68							
70							

DATE: 8-12-99
 TOTAL DEPTH: 40.0 feet

LOGGED BY: K. NEUMAN
 EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG

	RENO RAILROAD CORRIDOR RENO, NEVADA	PLATE	A16
	PROJECT NO. 30-1307-10.001	LOG OF B-14	


DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							4" Asphalt concrete over 8" aggregate base.
2							BROWN CLAYEY GRAVELLY SAND (SC) moist, medium dense, low plastic fines, fine to medium sand, fine to coarse gravel, subrounded, occasional cobbles and boulders. BROWN BOULDER at 2' approximately 24" max size.
4							LIGHT BROWN GRAY SANDY GRAVEL AND COBBLES (GP) dry, very dense, fine to coarse gravel, subrounded to subangular, cobbles approximately 4" max size.
6							
8							
10							No sample at 10', too dense. Boulder at 10.5' approximately 2'6" max size.
12							
14							LIGHT BROWN GRAY SANDY GRAVEL AND COBBLES (GP) dry, very dense.
16	110	4.7	49				BROWN GRAY SANDY GRAVEL (GP) dry to moist, dense, fine to coarse gravel, subrounded to subangular, gravel approximately 3" max size.
18							BROWN SAND (SP) dry to moist, dense, fine to coarse sand, trace fines.
20			47/4"				GRAY BROWN GRAVELLY SAND (SP-SW) moist, very dense, fine gravel, angular to subangular, fine to coarse sand, trace fines.
22							
24							
26	103	4.4	50/4"				DARK GRAY BROWN SANDY GRAVEL (GP) moist to wet, very dense, fine to coarse gravel, angular to subangular, fine to coarse sand, trace fines, occasional clay lenses.
28		▽					RED BROWN CLAYEY SANDY GRAVEL (GC) moist to wet, very dense, low to medium plastic fines, fine to coarse gravel, subangular to subrounded, fine to coarse sand.
30	110	17.4	40/4"				GRAY BROWN SILTY SANDY GRAVEL WITH TRACE CLAY (GM) wet, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, subrounded to subangular, approximately 2" max size.
32							
34							
DATE: 8-10-99					LOGGED BY: K. NEUMAN		
TOTAL DEPTH: 82.0 feet					EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG		
 KLEINFELDER					RENO RAILROAD CORRIDOR		PLATE
					RENO, NEVADA		A17
PROJECT NO. 30-1307-10.001					LOG OF B-15		


DEPTH IN FEET					USCS	SOIL DESCRIPTION
	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200		
36			50/4"			No recovery at 35'.
38						
40	127	8.6	45/5"	11		BROWN SILTY SAND (SM) wet, dense to very dense, fine to coarse sand, low plastic fines.
42						BROWN GRAY SILTY SANDY GRAVEL (GM) very dense, low plastic fines, fine to coarse gravel, angular to subrounded, approximately 2" max size.
44			97			
46						ORANGE BROWN CLAYEY SANDY GRAVEL (GC) wet, very dense, low plastic fines, fine to coarse sand, coarse gravel, rounded to subrounded.
48						GRAY BROWN SANDY GRAVEL WITH TRACE SILT (GP) wet, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subangular.
50						
52						
54						DARK BROWN SILTY SAND WITH SOME GRAVEL (SW-SM) wet, dense, fine to coarse sand, fine to coarse gravel, rounded to subrounded, low plastic fines.
56			55	10		
58						
60						BROWN SILTY SAND WITH GRAVEL (SM) wet, dense, fine to coarse sand, low plastic fines, fine to coarse gravel, rounded to subangular.
62						
64						
66	123	9.3	58			RED BROWN GRAVELLY SAND (SP) wet, dense, fine to coarse sand, fine gravel, subangular, trace fines.
68						RED BROWN GRAVELLY SAND WITH TRACE SILT (SP) wet, very dense, fine to coarse sand, fine gravel, subangular to subrounded, low plastic fines.
70						
DATE: 8-10-99 TOTAL DEPTH: 82.0 feet LOGGED BY: K. NEUMAN EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG						
 KLEINFELDER					RENO RAILROAD CORRIDOR RENO, NEVADA LOG OF B-15	
PROJECT NO. 30-1307-10.001					PLATE A17	

	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
70							GRAY BROWN SANDY GRAVEL (GP) wet, very dense, fine to coarse sand, fine to coarse gravel, rounded to subangular.
72							
74							
76							
78	121	11	54/6"				LIGHT BROWN SILTY GRAVEL WITH SAND (GM) wet, very dense, low plastic fines, fine gravel, rounded to subangular, approximately 1/2" max size.
80							
82							End of boring at 82'.
84							
86							
88							
90							
92							
94							
96							
98							
100							
102							
104							


DATE: 8-10-99
TOTAL DEPTH: 82.0 feet


LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG

 KLEINFELDER	RENO RAILROAD CORRIDOR RENO, NEVADA LOG OF B-15	PLATE A17
	PROJECT NO. 30-1307-10.001	

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e USCS	SOIL DESCRIPTION
0						8" Asphalt concrete.
2						Gray aggregate base approximately 2' thick.
						Geofabric at 2'8" below pavement section.
4						BROWN GRAVELLY SAND WITH TRACE SILT (SP) moist, medium dense, angular gravel, fine to coarse, coarse sand, occasional cobbles.
6			31			
8						
10						BROWN SILT (ML) moist, very stiff, low plastic fines.
12	94	13.2	30/3"	31		BROWN SILTY GRAVELLY SAND (SM) moist, very dense, coarse sand, low plastic fines, fine gravel, angular to subangular.
14						Granitic boulder from 12.5' to 16.5'.
16	126	11.7	50/4"	8		BROWN SANDY GRAVEL AND COBBLES WITH SOME SILT (GP-GM) moist, very dense, fine to coarse gravel, angular to subangular, low plastic fines, fine cobbles, subangular, coarse sand.
18						
20						LIGHT BROWN SANDY GRAVEL (GP) dry to moist, very dense, coarse gravel, subangular, approximately 3" max size.
22						
24						
26		▽	45/4"			Becoming wet.
28						
30			40/4"			
32						GRAY SANDY GRAVEL AND COBBLES WITH TRACE SILT (GP) wet, very dense, coarse sand, fine to coarse gravel, rounded to subrounded, fine cobbles, low plastic fines.
34						Bulk sample from cuttings.
DATE: 7-23-99 TOTAL DEPTH: 40.0 feet						LOGGED BY: K. NEUMAN EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG
 KLEINFELDER					RENO RAILROAD CORRIDOR RENO, NEVADA LOG OF B-16	
PROJECT NO. 30-1307-10.001					PLATE A18	

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
	36						
38							
40		11.7	43/4"				BROWN SANDY GRAVEL AND COBBLES WITH TRACE CLAY (GP) wet, very dense, coarse sand, fine to coarse gravel, subangular to subrounded, fine cobbles, subrounded. End of boring at 40'.
42							
44							
46							
48							
50							
52							
54							
56							
58							
60							
62							
64							
66							
68							
70							
DATE: 7-23-99		TOTAL DEPTH: 40.0 feet		LOGGED BY: K. NEUMAN		EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG	

 KLEINFELDER	RENO RAILROAD CORRIDOR RENO, NEVADA LOG OF B-16	PLATE A18
	PROJECT NO. 30-1307-10.001	

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							GRAY SILTY SANDY GRAVEL (FILL) moist, approximate 10-20% non-plastic fines, fine to coarse sand, subrounded to subangular gravel up to 1" diameter.
2		22.5		53			OLIVE BROWN SANDY CLAY (CL) moist, stiff, approximately 30-40% low to medium plastic fines, fine sand.
4							BROWN CLAYEY SILTY SAND (SM) moist, approximately 25-35% low plastic fines, fine sand.
6							
8							Becoming wet below 8' (probably due to drilling methods).
10							Increase sand content below 10.5'.
12							Occasional low plastic seams of very clayey sand.
14							
16				41			
18							GRAY BLACK SAND (SP) wet, fine to coarse sand.
20							GRAY BROWN SILTY SANDY GRAVEL (GM) moist, approximately 15-20% non-plastic fines, fine to coarse sand, rounded to subrounded gravel up to 2" diameter.
22							GRAY BROWN CLAYEY SAND (SC) moist, approximately 15-25% low plastic fines, fine sand, some subrounded gravel up to 1" diameter, yellow brown mottling.
24				10			GRAY BROWN SANDY GRAVEL WITH CLAY (GC-GP) moist, medium plastic fines, fine to coarse sand, subrounded to subangular gravel, cobbles up to 6" diameter.
26							
28							Becoming wet below 28'.
30							ANDESITE BOULDER approximately 12" diameter.
32							BROWN CLAYEY SANDY GRAVEL (GC) moist, approximately 15-25% medium plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 4" diameter, frequent pockets of fine to coarse sand, some yellow brown mottling.
34		13.2		11			GRAY BROWN CLAYEY SANDY GRAVEL (GC/GP) moist to wet, approximately 15-25% medium plastic fines, fine to
DATE: 7-29-99 TOTAL DEPTH: 50.0 feet							LOGGED BY: M. DOEHRING EQUIPMENT: SONIC DRILL RIG ELEVATION: Approx. 4505 feet
 KLEINFELDER						RENO RAIL CORRIDOR RENO, NEVADA LOG OF B-17	
PROJECT NO. 30-1307-10.001						PLATE A19	

	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e U S C S	SOIL DESCRIPTION
36						coarse sand, rounded gravel up to 2" diameter.
38						BROWN GRAVELLY CLAYEY SAND (SC) moist, medium plastic fines, predominately fine sand, subrounded gravel up to 2" diameter, red mottling.
40		19.9		40		Fine to coarse sand.
42						
44						
46						
48						OLIVE BROWN CLAYEY SANDY GRAVEL (GC) moist, medium plastic fines, fine to coarse sand, subrounded gravel up to 1-1/2" diameter.
50						End of boring at 50'.
52						
54						
56						
58						
60						
62						
64						
66						
68						
70						
DATE: 7-29-99		LOGGED BY: M. DOEHRING				
TOTAL DEPTH: 50.0 feet		EQUIPMENT: SONIC DRILL RIG				
		ELEVATION: Approx. 4505 feet				
				RENO RAIL CORRIDOR RENO, NEVADA LOG OF B-17		PLATE A19
PROJECT NO. 30-1307-10.001						

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e USCS	SOIL DESCRIPTION
0						4" asphalt concrete over 6" aggregate base.
2						BROWN GRAVELLY SAND WITH COBBLES (FILL) moist, dense, fine to coarse gravel, angular to subrounded cobbles, angular to subrounded.
4	100	18.9	14	54		DARK BROWN CLAYEY SAND (FILL) moist, dense to very dense, fine to coarse gravel, subrounded, low plastic fines.
6						BROWN SANDY CLAY (FILL) moist, low to medium plastic fines, fine to medium sand.
8						BROWN VERY SANDY SILT (ML) moist, stiff, fine to medium sand, low plastic fines.
10						LIGHT BROWN SANDY SILT (ML) moist, stiff, low plastic fines, fine sand.
12	83	20.2	7	53		Clean sand lense at 11.5', fine to coarse sand, trace fines, 3" thick.
14						LIGHT BROWN SANDY SILT (ML) moist, stiff, low plastic fines, fine sand, dark brown mottling.
16	93	11.4	8			BROWN SAND (SP) moist, fine to medium sand.
18						BROWN SANDY SILT (ML) moist, stiff, low plastic fines, occasional brown, fine to medium, sand lenses.
20						BROWN SAND (SP-SW) moist, dense, fine to medium sand, trace fines.
22	105	11.7	26	18		BROWN SILTY SAND WITH SOME GRAVEL (SM) moist, fine to coarse sand, fine to coarse gravel, subrounded to subangular, trace fines.
24						
26	119	▽ 11.8	28			Becoming wet below 26'.
28						GRAY BROWN SANDY GRAVEL WITH TRACE SILT (GM-GP) wet, very dense, fine to coarse sand, low plastic silt, fine to coarse gravel, subangular to subrounded, approximately 3" max size.
30	130	8.8	50/4"			
32						LIGHT BROWN SILTY SANDY GRAVEL (GM-GP) wet, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, subangular to subrounded, 2" max size.
34						

DATE: 7-29-99
TOTAL DEPTH: 41.5 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG



KLEINFELDER

RENO RAILROAD CORRIDOR


RENO, NEVADA

LOG OF B-18

PLATE

A20

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
	36		13.2	50/4"	10		
38							
40			50/4"				Traces of clay - low plastic fines.
42							End of boring at 41.5'.
44							
46							
48							
50							
52							
54							
56							
58							
60							
62							
64							
66							
68							
70							
DATE: 7-29-99		TOTAL DEPTH: 41.5 feet		LOGGED BY: K. NEUMAN		EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG	
 KLEINFELDER				RENO RAILROAD CORRIDOR RENO, NEVADA LOG OF B-18			PLATE A20
PROJECT NO. 30-1307-10.001							

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	USCS	SOIL DESCRIPTION
0						5" asphalt concrete
2						8" Aggregate base. Base material consists of silts and rounded gravel and cobbles.
4						BROWN SILTY SANDY CLAY (CL) moist, stiff, low to medium plastic fines, fine sand.
6	98	20.2	50/4"	66		BROWN CLAYEY VERY SANDY SILT (ML) moist, hard, low plastic fines, fine sand.
8						BROWN SILTY SAND (SM) moist, very dense, non to low plastic fines, fine to coarse sand.
10	81	27.3	51	96		BROWN SILT (ML) moist, hard, low plastic fines.
12						BROWN SILTY SAND (SM) moist, very dense, non to low plastic fines, fine to coarse sand.
14						BROWN SAND (SP) moist, dense, fine to coarse sand.
16	83	24.9	56			BROWN SILT (ML) moist, hard, low plastic fines, trace amounts of clay.
18						
20						
22	96	23.7	101	38		BROWN SILTY SAND WITH SOME GRAVEL AND COBBLES (SM) moist to wet, very dense, fine sand, non-plastic fines, subangular to subrounded gravel, approximately 3" max size. (Sieve performed on soil matrix)
24		▽				BROWN SANDY GRAVEL WITH SILT (GP-GW) moist, very dense, fine gravel, subrounded, fine to coarse sand, less than 12% low plastic fines.
26			50/3"			No recovery with 2" sampler. No recovery with 2.5" sampler. Note: Bulk sample from cuttings.
28		▼				Groundwater stabilized at 28.8' on 9/9/99.
30						Angular to subrounded gravel. Cobbles between 25' to 30'.
32						
34						BROWN GRAVELLY SAND WITH TRACE SILT (SP) wet,

DATE: 7-21-99
TOTAL DEPTH: 57.0 feet

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG



KLEINFELDER

RENO RAILROAD CORRIDOR

RENO, NEVADA

LOG OF B-19

PLATE


A21


PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
	36			50/3"			
38							
40							
42							
44							
46			100/3"				BROWN SANDY GRAVEL WITH TRACE SILT (GP) wet, very dense, very fine to coarse gravel, trace cobbles.
48							No sample at 57', material too gravelly and dense.
50							
52							
54							
56							
58							End of boring at 57'. Monitoring well installed 7-22-99
60							
62							
64							
66							
68							
70							

DATE: 7-21-99
 TOTAL DEPTH: 57.0 feet

LOGGED BY: K. NEUMAN
 EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG

	KLEINFELDER	RENO RAILROAD CORRIDOR RENO, NEVADA LOG OF B-19	PLATE A21
	PROJECT NO. 30-1307-10.001		

DEPTH	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
0		Locking Cap								OLIVE BROWN SANDY GRAVEL WITH TRACE SILT (GP) wet, medium dense to dense, low plastic fines, fine to coarse sand, fine to coarse gravel, angular to subangular, 3/4" max size.
2		15' Grout								
4					19.6		80			ORANGE BROWN TO DARK BROWN SANDY CLAYEY GRAVEL (GC) moist, medium dense to dense, low to medium plastic fines, fine to coarse sand, fine to coarse gravel, angular to subangular, 1" max size.
6										
8										ORANGE BROWN SANDY CLAY (CL) moist, hard, medium to high plastic fines, fine sand.
10										
12										OLIVE BROWN SANDY CLAYEY GRAVEL (GC) moist, dense to very dense, low to medium plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subrounded, 3" max size.
14										
16		2' Bentonite								OLIVE BROWN SANDY GRAVEL WITH SOME SILT (GP-GM) moist, dense to very dense, rounded to subangular, 2" max size.
18		23' Gravel Pack			6.0		7			Some coarse subangular gravel 3/4" to 1" and several cobbles from 3" to 6" in size
20		0.7 Slot								BOULDER from 18.5' to 21'.
22										OLIVE BROWN SANDY GRAVEL WITH SOME SILT (GP-GM) moist, dense to very dense, rounded to subangular, 2" max size.
24										
26										BROWN CLAYEY SANDY GRAVEL (GC-GP) moist, dense to very dense, low to medium plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subangular, 2" max size.
28					8.3		10			Color change to gray brown below 26'.
30										Groundwater stabilized at 25.9' on 9/1/99. Cobbles, subrounded, 6" max size.
32										BROWN SANDY GRAVEL AND COBBLES (GP-GM) moist, dense, sand and silt around cobbles from 28' to 29'.
34										Gravels are fine to coarse, subrounded to subangular, approximately 2" max size.
36										GRANITIC BOULDER from 33' to 35'.
38										BROWN SANDY GRAVEL AND COBBLES (GP-GM)
40										BROWN CLAYEY GRAVEL WITH SAND (GC) wet, dense to very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, subrounded to subangular, approximately 2" max size.
42										End of boring at 40'
DATE DRILLED: 8-20-99			LOGGED BY: K. NEUMAN							
TOTAL DEPTH: 40.0 feet			EQUIPMENT: SONIC DRILL RIG							
HOLE DIAMETER: 6 inch			ELEVATION: Approx. 4499 feet							
 KLEINFELDER						RENO RAIL CORRIDOR RENO, NEVADA				PLATE A22
PROJECT NO. 30-1307-10.001						LOG OF BORING B-20				

DEPTH IN FEET

42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
84

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
									Well installed.

DATE DRILLED: 8-20-99
TOTAL DEPTH: 40.0 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4499 feet



KLEINFELDER

**RENO RAIL CORRIDOR
RENO, NEVADA**

PROJECT NO. 30-1307-10.001

LOG OF BORING B-20

PLATE

A22

DEPTH IN FEET

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
									6" Asphalt concrete.
									18" base, brown gravelly sand with cobbles.
0									
2						59			BROWN SANDY CLAY (FILL) moist, very stiff, medium plastic fines, some gravel, rounded
4									
6			87	20.4	23	75			OLIVE BROWN SANDY SILTY CLAY (CL) moist, very stiff, medium to high plastic fines, very fine to fine sand.
8									
10					30/3"				OLIVE GRAY SAND GRAVEL AND COBBLES (GP) very dense, material description based on drill cuttings. No recovery, slow drilling.
12									
14									
16									GRANITIC AND ANDESITIC GRAVEL, COBBLES WITH BOULDERS boulders approximately 3' max size.
18									
20					60/5"	7			OLIVE GRAY SANDY GRAVEL WITH SOME CLAY (GP-GC) moist, very dense, gravel approximately 3" max size.
22									
24					25/2"				GRAY BROWN SANDY GRAVEL WITH SOME SILT (GP-GM) moist, very dense, fine to coarse gravel, subrounded, coarse sand, low plastic fines.
26									
28									
30			122	11.9	42/6"	7			BROWN GRAY GRAVELLY SAND WITH TRACE CLAY (SW) wet, very dense, fine to coarse sand, fine to coarse gravel, subrounded to subangular, low plastic fines.
32									
34					40/4"				BROWN GRAY GRAVELLY SAND WITH TRACE SILT (SP-SW) wet, very dense, fine to coarse sand, fine to coarse gravel, subangular to subrounded, low plastic fines.
36									
38									DARK BROWN SANDY GRAVEL WITH TRACE SILT (GP) wet, very dense, fine to coarse sand, fine to coarse gravel, subangular to subrounded, low plastic fines, occasional subrounded
40				7.0	43/5"				
42									

DATE DRILLED: 7-27-99
TOTAL DEPTH: 62.5 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADDEX DRILL RIG
ELEVATION: Approx. 4497 feet



KLEINFELDER









RENO RAILROAD CORRIDOR
RENO, NEVADA


PLATE


A23


PROJECT NO. 30-1307-10.001

LOG OF BORING B-21

	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION		
42										cobbles.		
44						92				BROWN SILTY SANDY GRAVEL (GM) wet, very dense, low plastic fines, fine to coarse gravel, subrounded to subangular, fine to coarse sand, occasional cobbles.		
46										RED GRAY GRAVELLY SAND WITH TRACE SILT (SP) wet, very dense, very fine to coarse gravel, trace cobbles.		
48										BROWN GRAY SILTY SANDY GRAVEL (GM) wet, very dense, fine to coarse gravel, subangular to subrounded, fine to coarse sand, low plastic fines.		
50												
52												
54										LIGHT BROWN SILTY SAND (SM) wet, dense, low plastic fines, fine to medium sand, trace fine gravel, subangular.		
56			127	8.6	81					GRAY BROWN SILTY SANDY GRAVEL WITH TRACE CLAY (GM) wet, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, subangular to rounded, occasional cobbles 12" max size.		
58												
60												
62						50/4"				Note: Cobble in shoe, fractured rock approximately 6" to 12" size cobble, driller was still coring through.		
64										End of boring at 62.5'.		
66												
68												
70												
72												
74												
76												
78												
80												
82												
84												
DATE DRILLED: 7-27-99			LOGGED BY: K. NEUMAN									
TOTAL DEPTH: 62.5 feet			EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG									
HOLE DIAMETER: 6 inch			ELEVATION: Approx. 4497 feet									
 KLEINFELDER						RENO RAILROAD CORRIDOR						PLATE
						RENO, NEVADA						A23
PROJECT NO. 30-1307-10.001						LOG OF BORING B-21						

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0									OLIVE BROWN GRAVEL (FILL) with some silt, moist, approximately 10% low plasticity fines, fine to coarse sand, subrounded gravel up to 1-1/2" diameter.
2									
4									RED BROWN CLAY (CH) slightly moist, medium to high plasticity fines, fine to coarse sand, subangular gravel up to 1-1/2" diameter.
6									GRAY TO OLIVE GRAY CLAYEY SANDY GRAVEL (GC) moist to very moist, approximately 30% plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 4" diameter.
8						<1			ANDESITIC COBBLES 4" diameter.
10									GRAY TO BLACK GRAVEL AND COBBLES (GP) dry, subrounded to subangular.
12									OLIVE BROWN SANDY GRAVEL (GP) moist, 5% non-plastic fines, fine to coarse sand, subangular to subrounded gravel up to 4" diameter.
14									RED BROWN SANDY GRAVEL (GP) dry to slightly moist, approximately 5% non-plastic fines, fine to coarse sand, subangular gravel up to 4-1/2" diameter.
16									GRANITE COBBLE
18									OLIVE BROWN SANDY SILTY GRAVEL (GP-GM) slightly moist, approximately 10% non-plastic fines, fine to coarse sand, subrounded gravel up to 4" diameter.
20									
22	▽								GRAY ANDESITIC COBBLES from 6" to 12" diameter, no fines.
24				8.6		6			OLIVE BROWN SANDY CLAYEY GRAVEL (GC) moist to very moist, approximately 20% low to medium plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 4-1/2" diameter.
26									OLIVE BROWN SANDY GRAVEL WITH CLAY (GP-GC) moist to wet, low to medium plasticity fines, fine to coarse sand, subrounded gravel up to 4-1/2" diameter.
28									Increasing sand content below 26'.
30									OLIVE BROWN CLAYEY GRAVEL (GC) , moist to very moist, approximately 20% plastic fines, fine to coarse sand, subrounded gravel up to 4" diameter.
32									GRANITIC COBBLE 6" diameter.
34									OLIVE BROWN SANDY GRAVEL (GP) moist to very moist, approximately 5% non-plastic fines, fine to coarse sand, subrounded to rounded gravel up to 4" diameter.
36									
38									GRAY CLAYEY SANDY GRAVEL
40									
42									
DATE DRILLED:		8-19-99		LOGGED BY: K. PETERSON					
TOTAL DEPTH:		120.0 feet		EQUIPMENT: SONIC DRILL RIG					
HOLE DIAMETER:		6 inch		ELEVATION: Approx. 4496 feet					
 KLEINFELDER				RENO RAIL CORRIDOR				PLATE	
				RENO, NEVADA				A24	
PROJECT NO. 30-1307-10.001				LOG OF BORING B-22					

	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
42										(GC) moist to very moist, approximately 15-20% plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 12" diameter, andesitic .
44										
46										<u>YELLOW, PINK AND GRAY GRANITIC AND ANDESITIC GRAVEL AND COBBLES</u> up to 12" diameter, no fines, no sand.
48					14.6		8			<u>GRAY BROWN SANDY GRAVEL WITH CLAY (GP-GC)</u> moist, low plastic fines, (clay content increases gradually as depth increases), fine to coarse sand, subrounded to subangular gravel up to 3" diameter.
50										
52										
54										<u>YELLOW GRANITIC BOULDER</u> fractured from drilling
56										<u>BROWN SANDY CLAYEY GRAVEL (GC)</u> moist, approximately 30% low to medium plastic fines, fine to coarse sand, gravel up to 1" diameter, variegated colors on interior, gray, red and purple, decomposing gravel.
58										
60					14.6		13			<u>OLIVE BROWN CLAYEY SANDY GRAVEL (GC)</u> moist, low plastic fines, fine to coarse sand, subrounded gravel, granitic cobbles up to 3" diameter. Increasing fines content.
62										
64										
66										
68										
70										<u>OLIVE BROWN CLAYEY SANDY GRAVEL (GC)</u> moist to wet, approximately 20% medium to high plastic fines, fine to coarse sand, subrounded gravel up to 2-1/2" diameter.
72										
74					34.1		88			<u>OLIVE BROWN SANDY CLAY (CL)</u> moist, medium plastic fines, fine to medium sand.
76										
78										<u>OLIVE BROWN SANDY GRAVEL WITH CLAY (GP-GC)</u> moist to wet, plastic fines, fine to coarse sand, subangular to subrounded gravel up to 3" diameter.
80					13.0		8			
82										
84										
DATE DRILLED:			8-19-99		LOGGED BY: K. PETERSON					
TOTAL DEPTH:			120.0 feet		EQUIPMENT: SONIC DRILL RIG					
HOLE DIAMETER:			6 inch		ELEVATION: Approx. 4496 feet					
 KLEINFELDER						RENO RAIL CORRIDOR				PLATE
						RENO, NEVADA				A24
PROJECT NO. 30-1307-10.001						LOG OF BORING B-22				

	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
84										Increasing sand content, fewer fines.
86										
88										
90										
92										
94					25.6		38			OLIVE BROWN SANDY SILT (ML) slightly moist to moist, approximately 70% non-plastic fines, fine to medium sand.
96										BROWN CLAYEY SAND (SC) moist, low plasticity fines, fine sand. Decreased clay content, increased silt content below 95', with 1" gravel.
98										Fine to coarse sand below 96.5'. BROWN CLAYEY SANDY GRAVEL (GC) moist, approximately 20-30% medium plasticity fines, fine to coarse sand, subrounded gravel and cobbles up to 4" diameter.
100										
102										Decreasing fine content below 100'. DARK BROWN SILTY SANDY GRAVEL (GM) moist, approximately 15-25% non-plastic fines, fine to coarse sand, rounded and subrounded gravel up to 3" diameter.
104										
106										YELLOW BROWN SILTY SAND WITH GRAVEL (GM) wet, approximately 15-25% non-plastic fines, fine sand, angular gravel up to 3" diameter.
108					8.7					YELLOW BROWN CLAYEY SAND (SC) moist to wet, approximately 30-40% medium plasticity fines, fine sand.
110										YELLOW BROWN SILTY SANDY GRAVEL (GM) wet, approximately 15-20% non-plastic fines, fine to coarse sand, subrounded to angular gravel up to 2-1/2" diameter.
112										
114										OLIVE BROWN SANDY GRAVEL WITH SILT (GP-GM) wet, approximately 5-15% non-plastic fines, fine to coarse sand, predominantly fine gravel, occasional subrounded gravel up to 3" diameter
116					17.9					
118										Becoming moist below 107', increasing fines content.
120					17.8					OLIVE BROWN CLAYEY SANDY GRAVEL (GC) moist, approximately 15-25% medium plasticity fines, fine to coarse sand, rounded gravel up to 3" diameter.
122										
124										6" cobble at 109'.
126										
DATE DRILLED:			8-19-99		LOGGED BY: K. PETERSON					
TOTAL DEPTH:			120.0 feet		EQUIPMENT: SONIC DRILL RIG					
HOLE DIAMETER:			6 inch		ELEVATION: Approx. 4496 feet					
 KLEINFELDER					RENO RAIL CORRIDOR					PLATE
					RENO, NEVADA					A24
PROJECT NO. 30-1307-10.001					LOG OF BORING B-22					

DEPTH IN FEET

126
128
130
132
134
136
138
140
142
144
146
148
150
152
154
156
158
160
162
164
166
168

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
									6" cobble at 111'. OLIVE BROWN SANDY GRAVEL (GP) moist to wet, fine to coarse sand, subrounded gravel up to 3/4" diameter. OLIVE BROWN CLAYEY SANDY GRAVEL (GC) moist to wet, approximately 15-25% medium plastic fines, fine to coarse sand, subrounded gravel up to 2" diameter. BROWN SANDY GRAVEL (GP) moist to wet, trace low plasticity clay, predominantly fine sand, rounded gravel up to 1" diameter. ORANGE BROWN SAND WITH CLAY (SP) moist to wet, low plastic fines, fine sands, red mottling. OLIVE BROWN CLAY (CL-CH) moist to wet, hard, medium to high plastic fines, red mottling. BROWN SILTY SAND (SM) moist to wet, low plastic fines, fine to medium sand. End of boring at 120'.

DATE DRILLED: 8-19-99
TOTAL DEPTH: 120.0 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. PETERSON
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4496 feet



KLEINFELDER

RENO RAIL CORRIDOR

RENO, NEVADA

LOG OF BORING B-22

PLATE

A24

PROJECT NO. 30-1307-10.001

DEPTH IN FEET

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
42									
44									
46					50/4"	2			LIGHT BROWN SAND (SP) wet, very dense, medium to coarse sand.
48									
50									DARK BROWN SANDY GRAVEL (GP) wet, very dense, approximately 30-40% coarse sand, fine to coarse gravel, angular to subangular.
52									
54									
56									BROWN GRAVELY SAND WITH SOME SILT (SP-SM) wet, very dense, low plastic fines, fine to medium sand, fine to coarse gravel, rounded, trace amounts of clay.
58				8.9	50/4"	8			
60									End of boring at 59'.
62									
64									
66									
68									
70									
72									
74									
76									
78									
80									
82									
84									

DATE DRILLED: 7-16-99
TOTAL DEPTH: 59.0 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADDEX DRILL RIG
ELEVATION: Approx. 4494 feet



KLEINFELDER

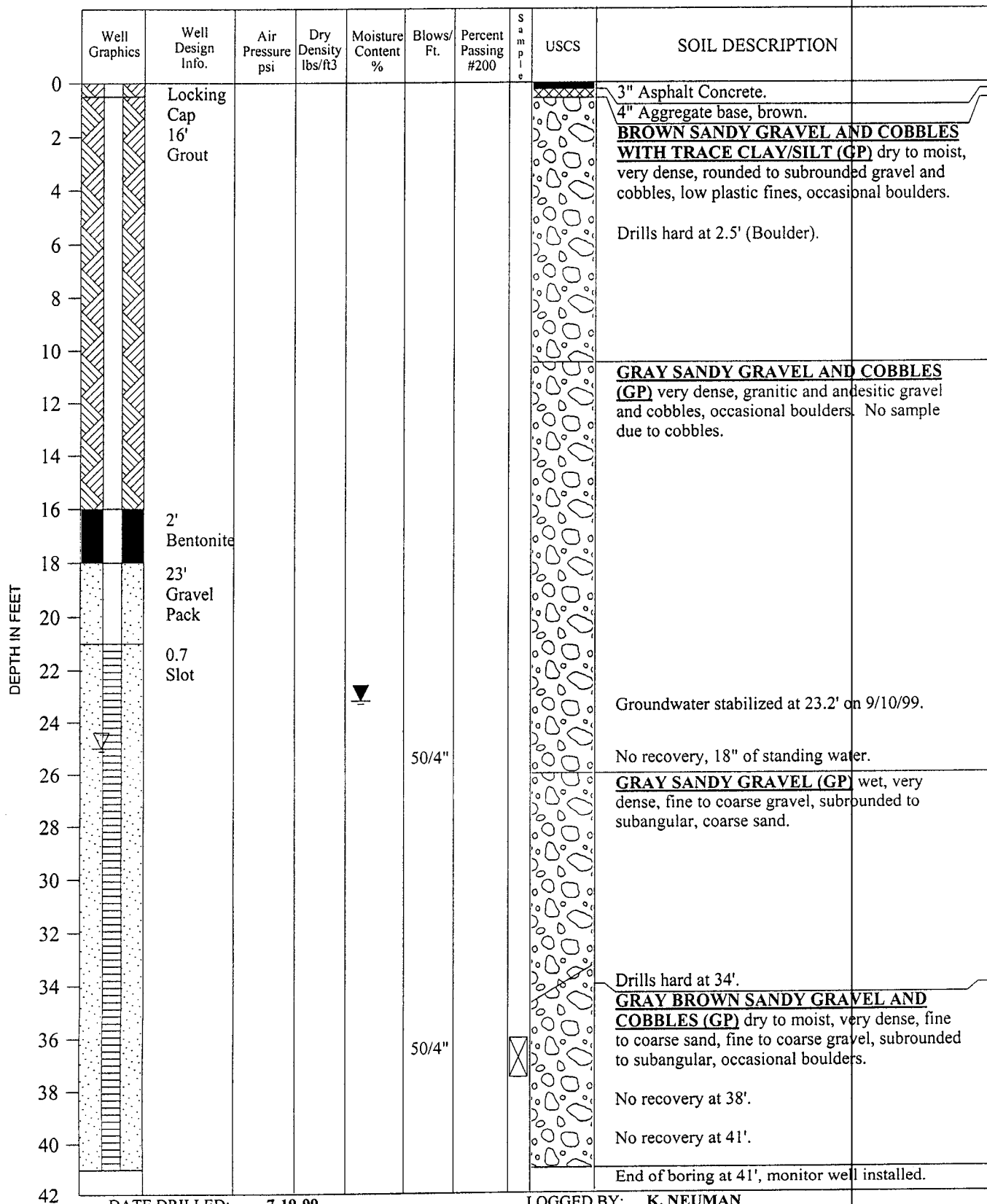
RENO RAILROAD CORRIDOR
RENO, NEVADA

PLATE

A25

PROJECT NO. 30-1307-10.001

LOG OF BORING B-23



DATE DRILLED: 7-19-99
TOTAL DEPTH: 41.0 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG
ELEVATION: Approx. 4492 feet



KLEINFELDER

RENO RAILROAD CORRIDOR
RENO, NEVADA

PLATE

A26

PROJECT NO. 30-1307-10.001

LOG OF BORING B-24

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
									<u>LIGHT BROWN SAND WITH GRAVEL (FILL)</u> dry, very dense, fine to coarse gravel, subrounded to subangular.
					50/4"				
					46/4"				<u>GRAY BROWN SANDY GRAVEL (GP)</u> dry, very dense, subangular gravel, fine to coarse gravel, fine sand.
					50/4"				Increasing moisture at 25', trace silt.
					50/5"				<u>BROWN SANDY CLAY (CL)</u> dry to moist, hard, low to medium plastic fines, fine to medium sand.

DATE DRILLED:	7-14-99
TOTAL DEPTH:	119.5 feet
HOLE DIAMETER:	6 inch

KLEINFELDER

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
42										
44										SANDY GRAVEL (GP) wet, very dense, fine to coarse gravel, subangular.
46										
48						73/10"				
50										
52										LIGHT BROWN SILTY SAND WITH GRAVEL (SM) wet, very dense, medium coarse sand, fine gravel, subangular, non-plastic fines.
54										
56			98		21.4	74	51			LIGHT BROWN SANDY CLAY (CL) wet, hard, fine to medium sand, medium plastic fines, pocket penetrometer = 3 tsf.
58										
60										DARK BROWN SANDY GRAVEL (GP) wet, very dense, subrounded gravel, coarse sand.
62										
64										
66						50/4"				LIGHT BROWN SAND (SP) wet, very dense, fine sand, trace fines.
68										DARK BROWN SAND WITH SOME GRAVEL (SP) wet, very dense, medium to coarse sand, approximately 5-10%, rounded to subrounded gravel, fine to coarse.
70										
72										BROWN SANDY GRAVEL (GP-GW) wet, very dense, medium to coarse sand, approximately 60%, rounded to subrounded gravel.
74										BROWN GRAVELLY SAND (SP) wet, very dense, medium to coarse sand, approximately 30%, rounded to subrounded gravel, fine to coarse.
76						50/4"				
78										
80										LIGHT BROWN SANDY GRAVEL WITH SILTY CLAY (GM-GC) wet, very dense, low to medium plastic fines, fine to coarse gravel, subrounded to subangular.
82										DARK BROWN GRAY SANDY GRAVEL (GP) , wet, very dense,
84										

DATE DRILLED: 7-14-99
TOTAL DEPTH: 119.5 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADIX DRILL RIG
ELEVATION: Approx. 4483 feet



KLEINFELDER

RENO RAILROAD CORRIDOR
RENO, NEVADA

PLATE

A27

PROJECT NO. 30-1307-10.001

LOG OF BORING B-25

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
84									subrounded to subangular gravel, fine to coarse, coarse sand, trace clay lenses within gravel matrix.
86				10.1	40/4"	6	■		Rounded to subrounded gravel.
88									
90									LIGHT BROWN SANDY GRAVEL WITH SILT AND CLAY (GM-GC) wet, very dense, low plastic fines, clay lenses within gravel matrix, rounded to subrounded gravel, fine to coarse.
92									
94									
96					50/2"		■		BROWN SAND (SP) wet, very dense, medium to coarse sands. Grades to light brown fine sand at 97'.
98									
100									LIGHT BROWN SILTY SANDY GRAVEL WITH TRACE CLAY (GM) wet, very dense, low plastic fines, fine to coarse gravel, subrounded.
102									LIGHT BROWN TO BROWN GRAVELY SAND WITH SILT (SM) wet, very dense, non to low plastic fines, fine to coarse gravel, rounded to subrounded.
104									
106				18.2	50/4"	11	■		
108									
110									
112									
114							⊗		
116									
118									
120					50/3"		■		
122									End of boring at 119.5'.
124									
126									

DATE DRILLED: 7-14-99
TOTAL DEPTH: 119.5 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADIX DRILL RIG
ELEVATION: Approx. 4483 feet



KLEINFELDER

RENO RAILROAD CORRIDOR

RENO, NEVADA


PLATE


A27

PROJECT NO. 30-1307-10.001

LOG OF BORING B-25

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION	
<div>DEPTH IN FEET</div> <div><div>0</div><div>2</div><div>4</div><div>6</div><div>8</div><div>10</div><div>12</div><div>14</div><div>16</div><div>18</div><div>20</div><div>22</div><div>24</div><div>26</div><div>28</div><div>30</div><div>32</div><div>34</div><div>36</div><div>38</div><div>40</div><div>42</div></div>	Locking Cap 115' Grout								OLIVE GRAY CLAYEY GRAVELLY SAND (FILL) , moist, low plastic fines, fine to coarse sand, subrounded to subangular gravel up to 1/2" diameter.	
										YELLOW BROWN CLAYEY SAND (FILL) slightly moist, low plasticity, fines, fine to medium sand.
					14.3		81			BLACK CLAYEY SAND (FILL) slightly moist, low plasticity fines, fine to coarse sand, 4" thick layer.
							2			DARK BROWN CLAYEY GRAVELLY SAND (SC) slightly moist, low plasticity fines, fine to coarse sand, subangular gravel up to 1-1/2" diameter.
										DARK BROWN SANDY CLAY (CH) slightly moist, high plastic fines, fine to medium sand.
										DARK BROWN SANDY GRAVELLY CLAY (CL) slightly moist, medium plastic fines, fine to medium sand, rounded gravel up to 2" diameter.
										GRAY SANDY GRAVEL (GP) dry, fine to coarse sand, subrounded and subangular gravel to 3" diameter.
										GRAY BROWN SANDY GRAVELLY CLAY (CL) moist, plastic fines, fine to coarse sand, subangular to subrounded gravel up to 2" diameter.
										GRAY SANDY GRAVEL AND COBBLES (GP) dry, fine to coarse sand, subrounded gravel and cobbles up to 4-1/2" diameter.
										RED GRAY ANDESITE BOULDER
										OLIVE BROWN GRAVELLY CLAYEY SAND (SC) dry to slightly moist, medium to low plastic fines, fine to coarse sand, subrounded gravel 1-1/2" diameter.
										PINKISH RED GRAY ANDESITIC GRAVEL BOULDER approximately 2' diameter.
								20		OLIVE BROWN SILTY SANDY GRAVEL (GM) moist, non-plastic fines, fine to coarse sand, round gravel up to 2" diameter.
						6.1		4		GRAY ANDESITIC BOULDER 28" diameter.
								OLIVE GRAY CLAYEY SANDY GRAVEL (GC) moist, low plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 4" diameter.		
								BROWN CLAYEY GRAVELLY SAND (SC) moist, moderate plastic fines, fine to coarse sand, rounded gravel up to 1-1/2" diameter.		
								GRAY SANDY GRAVEL (GP) wet,		
DATE DRILLED: 8-16-99		TOTAL DEPTH: 125.0 feet		HOLE DIAMETER: 6 inch		LOGGED BY: M. DOEHRING EQUIPMENT: SONIC DRILL RIG ELEVATION: Approx. 4490 feet				

 KLEINFELDER	RENO RAIL CORRIDOR	PLATE
	RENO, NEVADA	A28
PROJECT NO. 30-1307-10.001	LOG OF BORING B-26	

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION	
<div>DEPTH IN FEET</div> <div><div>42</div><div>44</div><div>46</div><div>48</div><div>50</div><div>52</div><div>54</div><div>56</div><div>58</div><div>60</div><div>62</div><div>64</div><div>66</div><div>68</div><div>70</div><div>72</div><div>74</div><div>76</div><div>78</div><div>80</div><div>82</div><div>84</div></div>				23.1		14			trace non-plastic fines, fine to coarse sand, rounded gravel and cobbles up to 7" diameter.	
									OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) wet, medium plastic fines, fine to coarse sand, trace rounded gravel up to 2-1/2" diameter.	
									OLIVE BROWN CLAYEY SANDY GRAVEL (GC) moist, medium plastic fines, fine to coarse sand, subrounded gravel up to 2" diameter, approximately 15-25% fines, yellow brown mottling.	
									Color change to gray brown, wet below 4', gravel/cobbles up to 3" diameter, decreasing fines.	
									Occasional cobbles up to 4" diameter.	
									Increasing fines content, becoming moist to wet.	
					22.7		36		BROWN CLAYEY SAND WITH GRAVEL (SC) wet, low to medium plastic fines, predominately fine sand, some subrounded gravel up to 1" diameter.	
									BROWN CLAYEY GRAVELLY SAND (SC) wet, medium plastic fines, fine to coarse sand, subrounded gravel up to approximately 1" diameter.	
									BROWN CLAYEY SANDY GRAVEL (GC) moist to wet, high plastic fines, predominately fine sand, subrounded gravel and cobbles up to 6" diameter.	
									BROWN SANDY SILTY CLAY (CL) moist, medium plastic fines, very fine sand, red yellow brown mottling, trace amounts of rounded fine gravel.	
							13		GRAY BROWN CLAYEY SANDY GRAVEL (GC) wet, medium to high plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 7" diameter, some yellow brown and gray mottling.	
									OLIVE BROWN SANDY GRAVEL (GP) wet, fine to coarse sand, rounded fine 1" gravel.	
	DATE DRILLED: 8-16-99		TOTAL DEPTH: 125.0 feet		HOLE DIAMETER: 6 inch		LOGGED BY: M. DOEHRING			
							EQUIPMENT: SONIC DRILL RIG			
							ELEVATION: Approx. 4490 feet			
	 KLEINFELDER						RENO RAIL CORRIDOR			
							RENO, NEVADA			
PROJECT NO. 30-1307-10.001						LOG OF BORING B-26				
						PLATE				
						A28				

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	USCS	SOIL DESCRIPTION
84								BROWN CLAYEY SAND (SC) wet, low to medium plastic fines, predominately fine sand, frequent clean sand seams, yellow brown mottling.
86								OLIVE GRAY CLAYEY SANDY GRAVEL (GC) wet, low to medium plastic fines, fine to coarse sand, subrounded to subangular gravel up to 2" diameter.
88								BROWN SANDY GRAVEL WITH SILT (GP-GM) wet, non-plastic fines, fine to coarse sand, rounded gravel and cobbles up to 4" diameter.
90								
92								
94								
96								OLIVE BROWN SAND (SP) wet, fine sand, yellow brown mottling.
98								OLIVE BROWN SILTY CLAY (CL) wet, low plastic fines, trace fine sand, trace rounded gravel up to 1" diameter, yellow brown mottling.
100			31.0			88		OLIVE BROWN SILTY SAND (SM) wet, non-plastic fines, fine sand, yellow brown mottling.
102								OLIVE BROWN SANDY SILTY CLAY (CL) moist to wet, low to medium plastic fines, fine sand, dark brown and yellow brown mottling.
104								OLIVE BROWN SILTY SAND (SM) moist, non-plastic fines, fine sand, a dark brown lense of silty sand with some fine gravel below approximately 101'6".
106								OLIVE BROWN SILTY CLAYEY SAND (SC) moist, low plastic fines, fine sand.
108								OLIVE BROWN CLAYEY GRAVEL WITH SAND (GC) moist, low to medium plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subrounded approximately 3" max size.
110								ORANGE BROWN SILTY CLAY (CL) moist, stiff, medium to high plastic fines, trace fine to medium sand, pocket penetrometer = 2.0 tsf.
112								OLIVE BROWN CLAYEY GRAVEL WITH SAND (GC) moist, very dense, low to medium plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subrounded approximately 2" max size.
114								ORANGE BROWN CLAYEY SAND (SC) wet, dense, low plastic fines, fine to coarse sand.
116	2' Bentonite							ORANGE BROWN SILTY CLAY (CL-CH) wet, medium stiff, low to high
118	8' Gravel Pack							
120	0.7 Slot							
122								
124				28.0		64		
126								

DATE DRILLED: 8-16-99
TOTAL DEPTH: 125.0 feet
HOLE DIAMETER: 6 inch

LOGGED BY: M. DOEHRING
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4490 feet



KLEINFELDER

RENO RAIL CORRIDOR
RENO, NEVADA


PLATE

A28

PROJECT NO. 30-1307-10.001

LOG OF BORING B-26

	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
126										plastic fines, pocket penetrometer = 0.5 tsf. Clays grades to stiff, increasing sand content, pocket penetrometer = 1.5 tsf. BROWN SAND (SP) wet, medium dense to dense, fine sand, trace clay, low plastic fines. ORANGE BROWN CLAYEY SAND (SC) wet, medium dense to dense, low plastic fines, fine sand. ORANGE BROWN SANDY CLAY (CL) wet, medium stiff, low to medium plastic fines, grades to very stiff, orange mottling, pocket penetrometer = 0.5 to 1.5 tsf. End of boring at 125'.
128										
130										
132										
134										
136										
138										
140										
142										
144										
146										
148										
150										
152										
154										
156										
158										
160										
162										
164										
166										
168	DATE DRILLED: 8-16-99		TOTAL DEPTH: 125.0 feet		HOLE DIAMETER: 6 inch		LOGGED BY: M. DOEHRING		EQUIPMENT: SONIC DRILL RIG	
							ELEVATION: Approx. 4490 feet			



KLEINFELDER

RENO RAIL CORRIDOR

RENO, NEVADA

LOG OF BORING B-26

PLATE

A28

PROJECT NO. 30-1307-10.001

DEPTH IN FEET	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
0		Locking Cap	70							BROWN SANDY GRAVEL AND COBBLES WITH TRACE SILT (GP) dry to moist, very dense, fine to coarse sand, fine to coarse gravel, rounded to angular, cobbles, rounded to subrounded, approximately 12" max size, occasional boulders approximately 1-1/2' max size.
2		17' Grout	60							
4			60							
6			80							DARK BROWN SANDY GRAVEL, COBBLES AND BOULDERS (GP) moist, very dense, fine to medium sand, fine to coarse gravel, rounded to subangular, boulders approximately 2' max size, rounded to subrounded, fine to coarse cobbles, rounded to subrounded.
8			90							Boulder at 7' approximately 6' max size.
10			100							
12			80							
14			70			31/3"				No recovery at 13'.
16			90							GRAY SANDY GRAVEL (GP) moist, very dense, fine to coarse sand, fine gravel, angular to subangular, approximately 3/4" max size.
18		2' Bentonite	90							BOULDER at 17' approximately 1-1/2' max size.
20		23' Gravel Pack	100							GRAY SANDY GRAVEL (GP) moist, very dense, fine to coarse sand, fine to coarse gravel, angular to subangular, approximately 1" max size.
22		0.7 Slot	100							BROWN SILTY SAND (SM) wet, dense, fine to medium sand, non-plastic fines.
24			90			43	12			Groundwater stabilized at 22.7' on 9/1/99.
26										BROWN CLAYEY SAND (SC) wet, dense, fine to medium sand, low plastic fines.
28			80	113	15.7	51				
30										BROWN GRAVELLY SAND WITH TRACE SILT (SP) wet, dense to very dense, fine to coarse sand, fine gravel, rounded to subrounded, approximately 1/2" max size.
32										
34			120	95	27.4	24	43			LIGHT BROWN VERY SILTY SAND (SM) wet, very stiff, low plastic fines, fine sand.
36			110							pocket penetrometer = 1.0 tsf
38										LIGHT BROWN SILTY CLAY (CL) wet, very stiff, low to medium plastic fines.
40			100							
42			80							LIGHT BROWN VERY CLAYEY SAND WITH TRACE GRAVEL (SC) wet, dense, low to medium plastic fines, fine sand, fine gravel, rounded to subrounded, approximately 1/2" max size.
42			70	103	22.6	32	40			

DATE DRILLED: 8-17-99
TOTAL DEPTH: 42.5 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG
ELEVATION: Approx. 4487 feet



KLEINFELDER


RENO RAILROAD CORRIDOR
RENO, NEVADA

PLATE

A29

PROJECT NO. 30-1307-10.001

LOG OF BORING B-27

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
42									LIGHT BROWN SANDY CLAY (CL) wet, very stiff to hard, fine to medium sand, low to medium plastic fines. End of boring at 42.5', well installed.
44									
46									
48									
50									
52									
54									
56									
58									
60									
62									
64									
66									
68									
70									
72									
74									
76									
78									
80									
82									
84	DATE DRILLED: 8-17-99		LOGGED BY: K. NEUMAN						
	TOTAL DEPTH: 42.5 feet		EQUIPMENT: SCHRAMM T-64, STRADEx DRILL RIG						
	HOLE DIAMETER: 6 inch		ELEVATION: Approx. 4487 feet						
 KLEINFELDER			RENO RAILROAD CORRIDOR RENO, NEVADA			PLATE A29			
PROJECT NO. 30-1307-10.001			LOG OF BORING B-27						

DEPTH IN FEET	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
0		Locking Cap	80							LIGHT BROWN SANDY GRAVEL (FILL) dry, dense, fine to coarse sand, fine to coarse gravel, subrounded to angular, approximately 2" max size, trace silt, low to non-plastic fines.
2		10' Grout	100							
4			80							LIGHT BROWN COBBLES AND BOULDERS (FILL) dry, very dense, cobbles approximately 6-12" size, rounded to subrounded, boulders approximately 2' max size, rounded to subrounded.
6			90							
8			90							BOULDER at 8' approximately 3' max size.
10		2' Bentonite	100							
12		23' Gravel Pack	90			40/4"				GRAY BROWN SANDY GRAVEL (GP) moist, very dense, fine to coarse sand, fine to coarse gravel, subrounded to subangular, approximately 3" max size, trace fines, frequent cobbles approximately 6" max size.
14			100							
16		0.7 Slot								
18			100			50				Dense
20			90							
22										GRAY BROWN SANDY GRAVEL WITH SOME SILT (GP-GM) moist, very dense, fine to coarse sand, fine to coarse gravel, angular to subrounded, approximately 3" max, frequent cobbles approximately 6" max size, low plastic fines.
24			90							
26			90	92	6.4	85	6			Groundwater stabilized at 29.8' on 9/1/99.
28										
30			90			68	11			BROWN SILTY SAND (SM-SP) wet, fine to coarse sand, low plastic fines.
32			90	105	14.3					
34										
36										End of boring at 35'.
38										
40										
42										

DATE DRILLED: 8-23-99
TOTAL DEPTH: 35.0 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADEX DRILL RIG
ELEVATION: Approx. 4489 feet



KLEINFELDER

RENO RAILROAD CORRIDOR
RENO, NEVADA

PLATE

A30

PROJECT NO. 30-1307-10.001

LOG OF BORING B-28

DEPTH IN FEET	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	USCS	SOIL DESCRIPTION
0		Locking Cap							GRAY ANDESITIC COBBLE approximately 6" diameter.
2		15' Grout							DARK BROWN SILTY SANDY GRAVEL (FILL) slightly moist to moist, approximately 15-25% non-plastic fines, fine to coarse sand, subangular and angular gravel up to 1" diameter.
4									GRAY SILTY SANDY GRAVEL (GM) slightly moist, approximately 15-25% nonplastic fines, fine to coarse sand, subrounded to subangular gravel up to 3-1/2" diameter
6					5.0		5		DARK BROWN SILTY SAND WITH GRAVEL (SM) slightly moist to moist, approximately 20-30% non-plastic fines, predominantly fine sand, subrounded gravel up to 1" diameter.
8									GRAY ANDESITE AND BASALT GRAVEL AND COBBLES up to 6" diameter.
10									OLIVE BROWN CLAYEY SANDY GRAVEL (GC) moist, approximately 15-20% medium plastic fines, fine to coarse sand, subrounded gravel up to 1" diameter.
12					4.5		8		OLIVE BROWN SANDY GRAVEL WITH TRACE SILT (GP) slightly moist, non-plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 6" diameter.
14		2' Bentonite							Becoming gray below 10'. Becoming olive brown/gray below 11.5'.
16		23' Gravel Pack							GRAY SANDY GRAVEL (GP) moist, fine to coarse sand, rounded gravel and cobbles up to 5" diameter.
18		0.7 Slot							OLIVE BROWN CLAYEY SANDY GRAVEL (GC) moist, approximately 15-20% medium plasticity fines, fine to coarse sand, subrounded gravel up to 3" diameter.
20					8.4		14		OLIVE BROWN SANDY GRAVEL WITH SOME CLAY (GP-GC) moist, low plasticity fines, fine to coarse sand, rounded gravel and cobbles up to 3" diameter.
22									BROWN/OLIVE BROWN SANDY GRAVEL SOME SILT (GP-GM) moist, non-plastic fines, fine to coarse sand, subrounded gravel and cobbles up to 4-1/2" diameter.
24									Becoming gray below 22.5'.
26					13.6		19		BROWN SILTY SANDY GRAVEL (GM) slightly moist to moist, approximately 20-30% non-plastic fines, fine to coarse sand, subrounded and subangular gravel up to 2-1/2" diameter.
28									OLIVE BROWN SANDY GRAVEL
30									
32									
34									
36									
38									
40									
42									

DATE DRILLED: 8-21-99
TOTAL DEPTH: 40.0 feet
HOLE DIAMETER: 6 inch

LOGGED BY: M. DOEHRING
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4487 feet



KLEINFELDER

RENO RAIL CORRIDOR
RENO, NEVADA


PROJECT NO. 30-1307-10.001

LOG OF BORING B-29

PLATE

A31

LOG OF BORING B-29

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
0									OLIVE BROWN SANDY CLAYEY GRAVEL (FILL) slightly moist, approximately 10% slightly plastic fines, fine to coarse sand, subrounded to angular gravel up to 3" diameter.
2									
4									BLACK SILTY SAND WITH GRAVEL (FILL) dry to slightly moist, approximately 20% non-plastic fines, fine to coarse sand, subrounded fine gravel up to 1" diameter, no organic aroma.
6									OLIVE BROWN SANDY CLAYEY GRAVEL (FILL) slightly moist, approximately 10% slightly plastic fines, fine to coarse sand, subrounded to angular gravel up to 3" diameter.
8									
10									
12				7.4		5			OLIVE GRAY SANDY CLAYEY GRAVEL (GC) dry to slightly moist, approximately 15% fines, non-plastic fines, fine to coarse sand, subangular gravel up to 4" diameter.
14									
16									GRANITIC BOULDER 1-1/2' diameter.
18									OLIVE SANDY GRAVEL (GP) moist to very moist, low plastic fines, fine to coarse sand, subrounded to subangular gravel up to 4-1/2" diameter.
20									LIGHT OLIVE SANDY GRAVEL (GM) dry to slightly moist, approximately 5% non-plastic fines, fine to coarse sand, subangular gravel 3" diameter (decomposing orthoclase rich granite).
22				12.4		6			
24									RED GRAY SANDY GRAVEL (GM) dry, approximately 10% non-plastic fines, fine to coarse sand, subangular gravel up to 3" diameter.
26									YELLOW GRAY GRANITIC BOULDER 6" diameter.
28									ANDESITIC COBBLES AND GRAVEL
30									OLIVE GRAY GRAVELLY SAND WITH SOME SILT (SM-SP) moderately moist, non-plastic fines, fine to coarse sand, fine gravel up to 1/2" diameter.
32									OLIVE GRAY SANDY CLAYEY GRAVEL (GM-GC) moist, approximately 15% slightly plastic fines, fine to coarse sand, subrounded gravel up to 3" diameter.
34									
36									OLIVE GRAY SANDY SILTY GRAVEL (GM) moderately moist, approximately 10% non-plastic fines, fine to coarse sand, subround gravel and cobbles up to 6" diameter.
38									End of boring at 28'.
40									
42									
DATE DRILLED:		8-20-99		LOGGED BY:		K. PETERSON			
TOTAL DEPTH:		28.0 feet		EQUIPMENT:		SONIC DRILL RIG			
HOLE DIAMETER:		6 inch		ELEVATION:		Approx. 4488 feet			
 KLEINFELDER				RENO RAIL CORRIDOR				PLATE	
				RENO, NEVADA				A32	
PROJECT NO. 30-1307-10.001				LOG OF BORING B-30					

DEPTH IN FEET	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0		Locking Cap								6" asphalt concrete over 12" aggregate base.
2		20' Grout	120							Aggregate base consists of sandy gravel 3/4" max size, rounded to subrounded, fine to coarse sand, some silt, low plastic fines.
4			100							BROWN SANDY GRAVEL WITH TRACE SILT (FILL) moist, very dense, low plastic fines, fine to medium sand, fine gravel, subrounded, 3/4" max size.
6			105							BOULDER 4' in diameter.
8			90							
10			80							
12			110							
14			90							GRAY COBBLES AND BOULDERS (GP) dry to moist, very dense, boulders approximately 4' max size, rounded to subrounded, fine to coarse cobbles, rounded to subrounded, some sand and gravel.
16			90							GRAY BROWN GRAVELLY SAND (SP) moist, dense, fine to coarse sand, 3/8" fine gravel, subrounded to subangular.
18			100	84	6.1	52	6			BROWN SAND (SP) moist, dense, fine to medium sand, trace fines.
20		2' Bentonite	80							
22		23' Gravel Park	100							
24										
26		0.7 Slot	70			20/1"				BROWN GRAVELLY SAND (SP) moist, very dense, fine to medium sand, fine gravel, subrounded to subangular, approximately 1/4" max size, trace fines.
28			80							GRAY SANDY GRAVEL AND COBBLES (GP) dry to moist, very dense, fine to coarse gravel, subrounded to subangular, cobbles, rounded to subrounded, approximately 6" max size, fine to medium sand.
30			90							
32			80			89				2" gravel in sampler.
34			90							
36			110							
38			150							BROWN SANDY GRAVEL (GP) moist, very dense, fine to coarse sand, fine to coarse gravel, angular to subangular, approximately 3" max size, trace fines, occasional cobbles approximately 4" max size.
40			110							
42			160		8.3	52/6"	3			1.5" gravel in shoe.
			170							
			100							

DATE DRILLED: 8-20-99
TOTAL DEPTH: 45.0 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG
ELEVATION: Approx. 4485 feet



KLEINFELDER

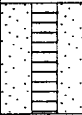


RENO RAILROAD CORRIDOR
RENO, NEVADA

PLATE

A33

PROJECT NO. 30-1307-10.001

LOG OF BORING B-32

	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION	
42			100								
44											
46										End of boring at 45'.	
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84	DATE DRILLED: 8-20-99		LOGGED BY: K. NEUMAN								
	TOTAL DEPTH: 45.0 feet		EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG								
	HOLE DIAMETER: 6 inch		ELEVATION: Approx. 4485 feet								
 KLEINFELDER							RENO RAILROAD CORRIDOR RENO, NEVADA				PLATE A33
PROJECT NO. 30-1307-10.001							LOG OF BORING B-32				

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							9" PCC pavement.
2							<u>BROWN CLAYEY SANDY GRAVEL WITH COBBLES AND BOULDERS (GC)</u> Approximately 50% gravel, cobbles, and boulders.
4							Refusal at 1' on cobble.
6							No free water encountered.
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							

DATE DRILLED: 7-26-99
TOTAL DEPTH: 2.0 feet
DIAMETER: 6 inch

LOGGED BY: W. HEGGE
EQUIPMENT: CME 55 AUGER DRILL RIG
ELEVATION: Approx. 4486 feet



KLEINFELDER

RENO RAIL CORRIDOR
RENO, NEVADA

PROJECT NO. 30-1307-10.001 January 2000

LOG OF BORING B-33

PLATE

A34

DEPTH IN FEET	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
0		Locking Cap								LIGHT BROWN SILTY SANDY GRAVEL (GM) dry, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, rounded to subangular, approximately 3" max size, frequent cobbles approximately 12" max size. (Sieve performed on soil matrix)
2		16.5' Grout			16.6		24			Color grades to black at 2'. Color grades to brown at 6'. Moisture content grades to moist.
4						30 3/4"				
6			110							
8										
10			70			25 1/2"				
12			85							
14			100		4.1	82	6			GRAY SANDY GRAVEL WITH TRACE CLAY AND SILT (GP) moist, very dense, fine to coarse sand, fine to coarse gravel, angular to subrounded, approximately 1.5" max size, low plastic fines, occasional cobbles approximately 4" max size.
16			100							
18		2' Bentonite	100			43 3/4"				
20		23' Gravel Pack								BROWN SILTY SANDY GRAVEL (GM) moist, very dense, low plastic fines, fine to coarse sand, fine gravel, subangular to rounded, approximately 3/4" max size.
22		0.7 Slot	100		14.3	40 3/4"				LIGHT BROWN SILTY SANDY GRAVEL (GM) wet, very dense, low plastic fines, fine to coarse sand, fine gravel, rounded to subangular, approximately 3/4" max size.
24			100							
26			100							
28			100			30 3/3"				BROWN SILTY SANDY GRAVEL WITH TRACE CLAY (GM) wet, very dense, low plastic fines, fine to coarse sand, fine to coarse gravel, angular to subrounded, approximately 1" max size.
30										
32			90			40 3/4"				No recovery at 33'.
34			90							
36			100							
38										BROWN SILTY SAND (SM) wet, dense to very dense, fine to medium sand, low plastic fines, occasional gravel seams, rounded to subrounded, approximately 1/2" max size.
40			120				15			End of boring at 41.5'.
42				97	22.6	40				

DATE DRILLED: 8-15-99
TOTAL DEPTH: 41.5 feet
HOLE DIAMETER: 6 inch

LOGGED BY: K. NEUMAN
EQUIPMENT: SCHRAMM T-64, STRADRIX DRILL RIG
ELEVATION: Approx. 4489 feet



KLEINFELDER

RENO RAILROAD CORRIDOR
RENO, NEVADA

PLATE

A35

PROJECT NO. 30-1307-10.001

LOG OF BORING P-1

DEPTH IN FEET	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
0		Locking Cap								<u>DARK BROWN SANDY GRAVEL WITH COBBLES (FILL)</u>
2		15' Grout								
4										<u>BROWN SANDY GRAVEL WITH COBBLES (GP)</u> slightly moist, dense to very dense.
6										
8										Increased cobbles below 7', up to 1' diameter.
10										
12										
14										
16		3' Bentonite								
18										Groundwater stabilized at 17.3' on 9/3/99.
20		22' Gravel Pack								
22		20' Wire Wrap								
24		Stainless Steel Screen								<u>RED GRAY SANDY GRAVEL WITH SOME CLAY (GC)</u> wet, medium dense, very fine to coarse gravel, cobbles 1' max size.
26										
28										
30										
32										
34										
36										<u>RED GRAY SANDY GRAVEL WITH TRACE FINES (GP)</u> wet, medium dense, very fine to coarse gravel, cobbles 1' max size.
38										
40		Pump								<u>BROWN GRAY SANDY GRAVEL WITH CLAY (GC)</u> wet, medium dense, cobbles 1' max size.
42										

DATE DRILLED: 8-30-99
TOTAL DEPTH: 50.0 feet
HOLE DIAMETER: 12 inch

LOGGED BY: B. WHITFORD
EQUIPMENT: SPEEDSTAR 70K ODEX DRILL RIG
ELEVATION: Approx. 4487 feet



KLEINFELDER

**RENO RAILROAD CORRIDOR
RENO, NEVADA**


PLATE

A36

PROJECT NO. 30-1307-10.001

LOG OF BORING P-2

A36

DEPTH IN FEET	Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
0		Locking Cap								DARK BROWN CLAYEY SAND (SC) moist, approximately 20-30% low plasticity fines, fine to coarse sand, some subrounded gravel up to 1-1/2" diameter.
2		15' Grout								GRAY ANDESITE COBBLE up to 6" diameter.
4										BROWN SILTY SANDY GRAVEL (GM) slightly moist, approximately 20-25% non-plastic fines, fine to coarse sand, subrounded gravel up to 2" diameter.
6										BLACK AND GRAY SANDY GRAVEL AND COBBLES (GP) moist, fine to coarse sand, subrounded gravel and cobbles up to 6" diameter.
8										OLIVE BROWN SILTY SANDY GRAVEL AND COBBLES (GM) moist to wet, approximately 15-20% non-plastic fines, fine to coarse sand, subrounded to angular gravel and cobbles up to 5" diameter.
10					2.6		4			A single highly weathered andesite cobble at 6'.
12										Becoming slightly moist to moist below 7'.
14										OLIVE BROWN SANDY GRAVEL AND COBBLES (GP) wet, fine to coarse sand, subangular to angular gravel and cobbles up to 3-1/2" diameter.
16		2' Bentonite								GRAY ANDESITE COBBLE up to 6" diameter.
18		23' Gravel Pack								OLIVE GRAY SILTY SANDY GRAVEL AND COBBLES (GM) moist, approximately 15-15% non-plastic fines, predominantly fine granular sand, rounded to subangular gravel and cobbles up to 4" diameter.
20		0.7 Slot			30.0		59			BROWN SANDY GRAVEL WITH TRACE SILT (GP) slightly moist to moist, non-plastic silts, fine to coarse sand, angular gravel, cobbles up to 5" diameter.
22										GRAY ANDESITE COBBLE up to 6" diameter.
24										GRAY WHITE GRANITE BOULDER up to 12" diameter.
26										GRAY SUBANGULAR ANDESITE GRAVEL AND COBBLES up to 5" diameter.
28										GRAY BASALT BOULDER up to 22" diameter.
30										OLIVE BROWN CLAYEY SANDY GRAVEL (GC) moist to wet, approximately 15-20%, medium plasticity fines, fine to coarse sand, subrounded to subangular gravel and cobbles up to 4" diameter.
32					21.1		11			LIGHT BROWN SAND WITH SILT
34										
36										
38										
40										
42										
DATE DRILLED: 8-22-99			LOGGED BY: M. DOEHRING							
TOTAL DEPTH: 40.0 feet			EQUIPMENT: SONIC DRILL RIG							
HOLE DIAMETER: 6 inch			ELEVATION: Approx. 4490 feet							
 KLEINFELDER						RENO RAIL CORRIDOR				PLATE
						RENO, NEVADA				A37
PROJECT NO. 30-1307-10.001						LOG OF BORING P-3				

DEPTH IN FEET

42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
84

Well Graphics	Well Design Info.	Air Pressure psi	Dry Density lbs/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
									<p><u>(SP-SM)</u> slightly moist, approximately 5-10% non-plastic fines, fine to coarse sand, decomposed granite.</p> <p><u>OLIVE BROWN SANDY CLAY (CL)</u> moist to wet, medium plasticity fines, fine to coarse sand, subrounded gravel up to 2" diameter.</p> <p><u>GRAY ANDESITE BOULDER</u> up to 12" diameter.</p> <p><u>GRAY BROWN SAND (SP)</u> wet, fine to coarse sand, trace silt. Trace amounts of clay below 29'.</p> <p><u>BROWN CLAYEY SANDY GRAVEL (GP-GC)</u> moist to wet, medium plasticity fines, fine sand. Increasing sand content below 35', some rounded gravel up to 1" diameter.</p> <p><u>BROWN SAND (SP)</u> wet, fine sand.</p> <p><u>BROWN CLAYEY SAND (SC)</u> moist to wet, approximately 35-45% high plastic fines, fine sand.</p> <p>End of boring at 40'.</p>

DATE DRILLED: 8-22-99
TOTAL DEPTH: 40.0 feet
HOLE DIAMETER: 6 inch

LOGGED BY: M. DOEHRING
EQUIPMENT: SONIC DRILL RIG
ELEVATION: Approx. 4490 feet



KLEINFELDER

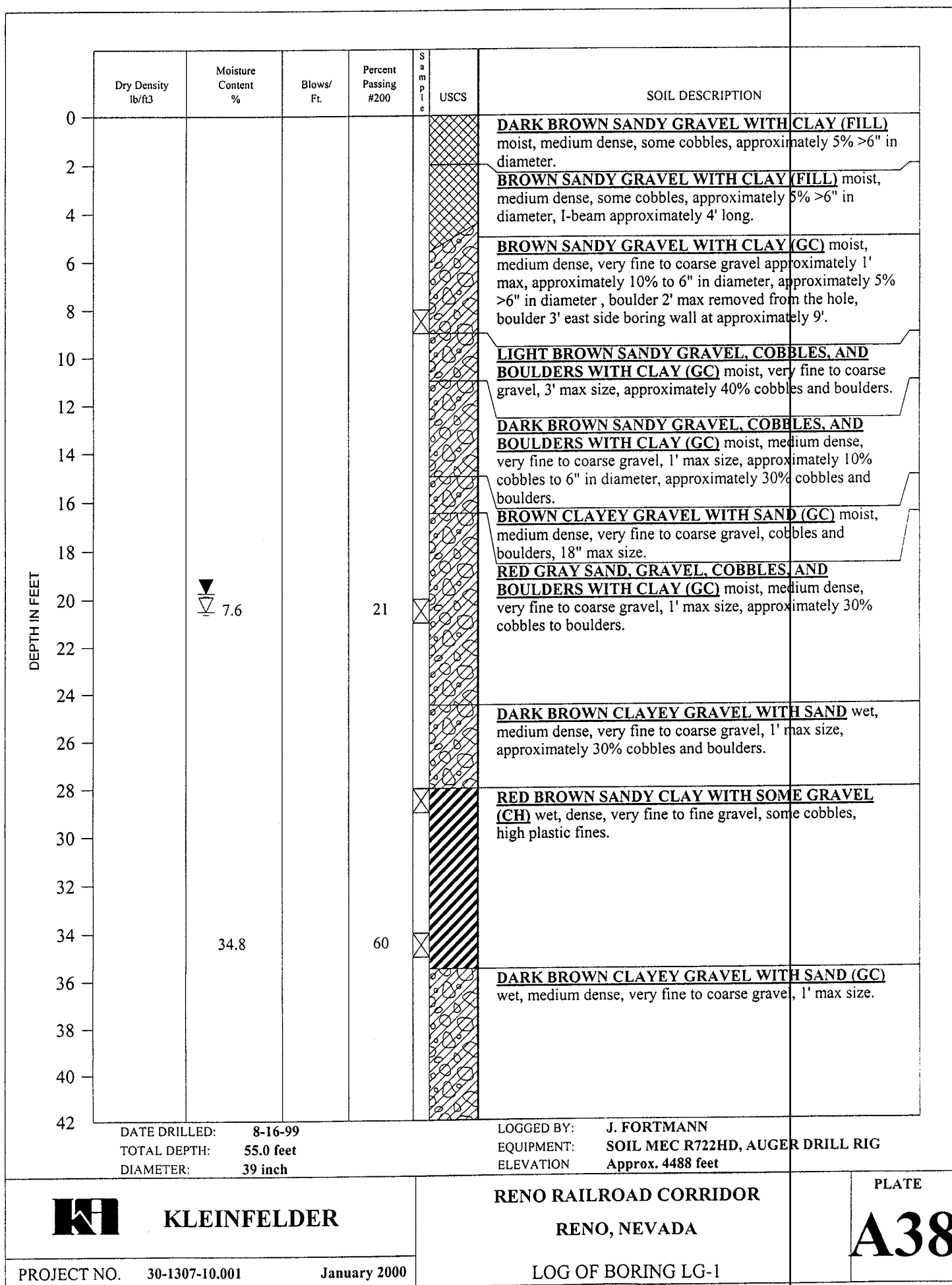
RENO RAIL CORRIDOR
RENO, NEVADA

PROJECT NO. 30-1307-10.001

LOG OF BORING P-3

PLATE


A37



DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
	42						
44		43.4		74			BROWN SANDY CLAY WITH GRAVEL (CL) wet, medium dense, very fine to fine gravel.
46							
48							
50							RED BROWN SANDY CLAY WITH GRAVEL (SC) wet, medium dense, very fine to coarse gravel, 1' max size.
52							
54							
56							End of boring at 55'.
58							
60							
62							
64							
66							
68							
70							
72							
74							
76							
78							
80							
82							
84							

DATE DRILLED: 8-16-99
TOTAL DEPTH: 55.0 feet
DIAMETER: 39 inch

LOGGED BY: J. FORTMANN
EQUIPMENT: SOIL MEC R722HD, AUGER DRILL RIG
ELEVATION: Approx. 4488 feet



KLEINFELDER


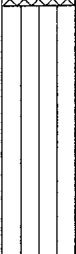





RENO RAILROAD CORRIDOR
RENO, NEVADA
LOG OF BORING LG-1


PLATE

A38

PROJECT NO. 30-1307-10.001
January 2000

DEPTH IN FEET						SOIL DESCRIPTION
	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	USCS	
0						<u>FILL</u> wood debris, bricks.
2						<u>DARK BROWN CLAYEY GRAVEL WITH SAND (GC)</u> dry, medium dense, very fine to coarse gravel, cobbles and boulders, 14" max size.
4						<u>BROWN CLAYEY GRAVEL WITH SAND (GC)</u> moist, dense, very fine to coarse gravel, cobbles and boulders 14" max, approximately 30-40% of material cobbles and boulders.
6						<u>BROWN SANDY GRAVEL WITH TRACE CLAY (GP)</u> moist, medium dense, very fine to coarse gravel, 2' max size, 30-40% total material cobbles and boulders, low plastic fines.
8						
10				5		
12						
14						
16						<u>DARK BROWN SANDY GRAVEL WITH CLAY (GC)</u> moist, medium dense, very fine to coarse gravel, 2' max, approximately 30-40% cobbles and boulders.
18						
20						
22		▼				<u>DARK BROWN SANDY GRAVEL WITH CLAY (GC)</u> wet, dense, very fine to coarse gravel, 2' max size, 30-40% cobbles and boulders.
24						<u>GRAY SANDY GRAVEL WITH CLAY (GC)</u> wet, dense, very fine to coarse gravel, 2' max size.
26		▽				Granite boulder, 3' long, 2' diameter, cored with core barrel.
28						<u>GRAY CLAYEY SANDY GRAVEL (GC)</u> wet, dense, very fine to coarse sand, 2' max size.
30						
32						
34						
36						<u>BROWN CLAYEY SANDY GRAVEL (GC)</u> wet, dense, very fine to coarse gravel, boulder 2' max size, approximately 40% cobbles and boulders, low plastic fines.
38						
40						
42						
DATE DRILLED: 8-25-99 TOTAL DEPTH: 55.0 feet DIAMETER: 39 inch						LOGGED BY: J. FORTMANN EQUIPMENT: SOIL MEC R722HD, AUGER DRILL RIG ELEVATION: Approx. 4492 feet
 KLEINFELDER						RENO RAILROAD CORRIDOR RENO, NEVADA LOG OF BORING LG-2
PROJECT NO. 30-1307-10.001 January 2000						PLATE A39

DEPTH IN FEET						SOIL DESCRIPTION	
	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	USCS		
0						<u>FILL</u>	
2						<u>BROWN SANDY SILT WITH TRACE GRAVEL (ML)</u> moist, very stiff, very fine to fine gravel.	
4							
6							
8							
10				35		<u>BROWN SILTY SAND WITH SOME GRAVEL (SM)</u> moist, dense, very fine to fine gravel.	
12							
14							
16							
18							
20						<u>RED GRAY SANDY GRAVEL WITH SOME CLAY (GP-GC)</u> moist, dense, very fine to coarse gravel, 1' max size, approximately 30-40% cobbles and boulders, medium plastic fines.	
22							
24							
26							
28				8		Becoming wet.	
30							
32							
34						<u>RED GRAY SANDY GRAVEL WITH CLAY (GC)</u> wet, dense, very fine to coarse gravel, 2' max size, approximately 20% cobbles and boulders.	
36				15			
38							
40							
42							
DATE DRILLED: 8-31-99					LOGGED BY: J. FORTMANN		
TOTAL DEPTH: 55.0 feet					EQUIPMENT: SOIL MEC R722HD, AUGER DRILL RIG		
DIAMETER: 39 inch					ELEVATION: Approx. 4505 feet		
 KLEINFELDER					RENO RAILROAD CORRIDOR		PLATE
					RENO, NEVADA		A40
PROJECT NO. 30-1307-10.001					LOG OF BORING LG-3		
January 2000							

	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
42							
44							
46							
48							
50							BROWN SILTY SANDY CLAY (CL) wet, very stiff, very fine to coarse sand, cobbles and boulders absent, medium plastic fines.
52							
54				73			
56							End of boring at 55'.
58							
60							
62							
64							
66							
68							
70							
72							
74							
76							
78							
80							
82							
84							
DATE DRILLED: 8-31-99		LOGGED BY: J. FORTMANN					
TOTAL DEPTH: 55.0 feet		EQUIPMENT: SOIL MEC R722HD, AUGER DRILL RIG					
DIAMETER: 39 inch		ELEVATION: Approx. 4505 feet					
 KLEINFELDER				RENO RAILROAD CORRIDOR RENO, NEVADA			PLATE A40
PROJECT NO. 30-1307-10.001 January 2000				LOG OF BORING LG-3			

DEPTH IN FEET

	Dry Density lb/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e USCS	SOIL DESCRIPTION
0						<u>SANDY GRAVEL WITH NUMEROUS COBBLES AND BOULDERS (GP)</u> deteriorated asphalt fragments approximately 2" thick, very dense, dry. Note: We tried three locations in a 10' circle and hit refusal in all three at 1' depth. No free water encountered.
2						
4						
6						
8						
10						
12						
14						
16						
18						
20						
22						
24						
26						
28						
30						
32						
34						
36						
38						
40						
42						

DATE DRILLED: 7-26-99
TOTAL DEPTH: 1.0 feet
DIAMETER: 6 inch

LOGGED BY: W. HEGGE
EQUIPMENT: CME 55 AUGER DRILL RIG
ELEVATION: Approx. 4530 feet



KLEINFELDER

**RENO RAIL CORRIDOR
RENO, NEVADA**

PLATE


A41

PROJECT NO. 30-1307-10.001

January 2000

LOG OF BORING SF-1

	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							3" asphalt pavement.
2			51				3" base rock (3/4" minus crushed rock). SANDY CLAY (CL) moist, very dense, no gravel, cobbles or boulders.
4							Refusal on cobble at 4'.
6							No free water encountered.
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							
DATE DRILLED: 7-26-99 TOTAL DEPTH: 4.0 feet DIAMETER: 6 inch				LOGGED BY: W. HEGGE EQUIPMENT: CME 55 AUGER DRILL RIG ELEVATION: Approx. 4523 feet			


KLEINFELDER

RENO RAIL CORRIDOR
RENO, NEVADA
LOG OF BORING SF-2

PLATE
A42

PROJECT NO. 30-1307-10.001
 January 2000

DEPTH IN FEET

	Dry Density lb/ft3	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							3" asphalt concrete.
2	97	20.5	46	59			6" base rock (3/4" minus crushed rock).
4			50/5"				LIGHT BROWN SANDY CLAY (CL) moist, hard, without gravel, cobbles, and boulders. Approximately 20% gravel, cobbles, and boulders.
6							Approximately 40% cobbles and boulders at 4 1/2'.
8							Refusal on boulder at 6'.
10							No free water encountered.
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							

DATE DRILLED: 7-26-99
TOTAL DEPTH: 6.0 feet
DIAMETER: 6 inch

LOGGED BY: W. HEGGE
EQUIPMENT: CME 55 AUGER DRILL RIG
ELEVATION: Approx. 4522 feet



KLEINFELDER

RENO RAIL CORRIDOR
RENO, NEVADA

PROJECT NO. 30-1307-10.001 January 2000

LOG OF BORING SF-3

PLATE

A43

DEPTH IN FEET

	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							5" 3/4" minus granular crushed rock.
2			50/3"				BROWN SILTY CLAY (CL) moist, stiff gravel and cobbles, and boulders (approximately 30-40% gravel, cobbles, and boulders).
4							Refusal on rock at 3' Moved two feet, hit refusal at 2 1/2'
6							No free water encountered.
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							

DATE DRILLED: 7-26-99
TOTAL DEPTH: 3.0 feet
DIAMETER: 6 inch

LOGGED BY: W. HEGGE
EQUIPMENT: CME 55 AUGER DRILL RIG
ELEVATION: Approx. 4522 feet



KLEINFELDER

**RENO RAIL CORRIDOR
RENO, NEVADA**

PLATE

A44

PROJECT NO. 30-1307-10.001


January 2000

LOG OF BORING SF-4

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
	0						
2	101	11.5	77				<u>BROWN SANDY CLAY WITH GRAVEL AND COBBLES (SC)</u> moist, dense, 20% gravel, cobbles, and boulders.
4							Refusal on rock at 4'. Moved 2' and hit refusal at 2 1/2' depth.
6							No free water encountered.
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							

DATE DRILLED: 7-26-99
TOTAL DEPTH: 4.0 feet
DIAMETER: 6 inch

LOGGED BY: W. HEGGE
EQUIPMENT: CME 55 AUGER DRILL RIG
ELEVATION: Approx. 4519 feet


KLEINFELDER

RENO RAIL CORRIDOR
RENO, NEVADA
LOG OF BORING SF-5

PLATE


A45

PROJECT NO. 30-1307-10.001
January 2000

	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							7" PCC pavement.
2			20	8			BROWN GRAVELLY SAND WITH CLAY AND COBBLES (SC-SP) moist, medium dense, about 40% gravel and cobbles.
4			50/1"				BROWN SAND (SP) medium dense, moist, 5% gravel, no cobbles.
6							Refusal on rock at 5'.
8							No free water encountered.
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							

DATE DRILLED: 7-26-99
TOTAL DEPTH: 5.0 feet
DIAMETER: 6 inch

LOGGED BY: W. HEGGE
EQUIPMENT: CME 55 AUGER DRILL RIG
ELEVATION: Approx. 4515 feet


KLEINFELDER

RENO RAIL CORRIDOR
RENO, NEVADA
LOG OF BORING SF-6

PLATE


A46

PROJECT NO. 30-1307-10.001
January 2000

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
	0						
2			27				BROWN CLAYEY SAND WITH GRAVEL (SC-SP) moist, medium dense, no boulders above 5' (approximately 10% gravel and cobbles).
4							
6	107	8	25	11			
8							Refusal on boulder at 7'.
10							No free water encountered.
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							

DATE DRILLED: 7-26-99
TOTAL DEPTH: 7.0 feet
DIAMETER: 6 inch

LOGGED BY: W. HEGGE
EQUIPMENT: CME 55 AUGER DRILL RIG
ELEVATION: Approx. feet


KLEINFELDER

RENO RAIL CORRIDOR
RENO, NEVADA
LOG OF BORING SF-7

PLATE


A47


PROJECT NO. 30-1307-10.001 January 2000


	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e U S C S	SOIL DESCRIPTION
0						6" asphalt concrete pavement.
2			19	39		5" base rock (3/4" minus crushed rock).
4						BROWN SANDY CLAYEY GRAVEL, COBBLES, AND BOULDERS (GC) moist, medium dense, (approximately 40-50% gravel, cobbles, and boulders).
6						Refusal on boulder at 4'.
8						No free water encountered.
10						
12						
14						
16						
18						
20						
22						
24						
26						
28						
30						
32						
34						
36						
38						
40						
42						

DATE DRILLED: 7-26-99
 TOTAL DEPTH: 4.0 feet
 DIAMETER: 6 inch

LOGGED BY: W. HEGGE
 EQUIPMENT: CME 55 AUGER DRILL RIG
 ELEVATION: Approx. 4491 feet

 KLEINFELDER	RENO RAIL CORRIDOR RENO, NEVADA	PLATE A48
	<div style="display: flex; justify-content: space-between;"> PROJECT NO. 30-1307-10.001 January 2000 </div> <div style="text-align: center; margin-top: 10px;"> LOG OF BORING SF-8 </div>	


	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							5" asphalt pavement.
2			50/5"				2" base coarse (3/4" minus crushed rock).
4							BROWN CLAYEY SANDY GRAVEL, COBBLES, AND BOULDERS (GC) moist, very dense, (approximately 40-50% gravel, cobbles, and boulders).
6							Refusal at 4' on rock.
8							No free water encountered.
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							
DATE DRILLED: 7-26-99 TOTAL DEPTH: 4.0 feet DIAMETER: 6 inch							LOGGED BY: W. HEGGE EQUIPMENT: CME 55 AUGER DRILL RIG ELEVATION: Approx. 4490 feet
 KLEINFELDER					RENO RAIL CORRIDOR RENO, NEVADA		PLATE A49
PROJECT NO. 30-1307-10.001 January 2000					LOG OF BORING SF-9		

	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
0							<u>CLAYEY SANDY GRAVEL, COBBLES AND BOULDERS (GC)</u> moist, very dense, approximately 50% gravel, cobbles, and boulders.
2	104	7.1	72	14			
4							
6							Refusal on boulder at 4 1/2'.
8							No free water encountered.
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							
DATE DRILLED: 7-26-99 TOTAL DEPTH: 4.5 feet DIAMETER: 6 inch				LOGGED BY: W. HEGGE EQUIPMENT: CME 55 AUGER DRILL RIG ELEVATION: Approx. 4488 feet			
 KLEINFELDER					RENO RAIL CORRIDOR RENO, NEVADA		PLATE A50
PROJECT NO. 30-1307-10.001 January 2000					LOG OF BORING SF-10		

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	Sample	USCS	SOIL DESCRIPTION
	0					X	
2							
4							
6							
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							

DATE DRILLED: 7-26-99
 TOTAL DEPTH: 1.0 feet
 DIAMETER: 6 inch


LOGGED BY: W. HEGGE
 EQUIPMENT: CME 55 AUGER DRILL RIG
 ELEVATION: Approx. 4488 feet

 KLEINFELDER	RENO RAIL CORRIDOR RENO, NEVADA	PLATE A51
	<div style="display: flex; justify-content: space-between;"> PROJECT NO. 30-1307-10.001 January 2000 </div> <div style="text-align: center; margin-top: 10px;"> LOG OF BORING SF-11 </div>	

DEPTH IN FEET	Dry Density lb/ft ³	Moisture Content %	Blows/ Ft.	Percent Passing #200	S a m p l e	USCS	SOIL DESCRIPTION
	0						
2			50/3"				5" base rock (3/4" minus crushed rock). <u>BROWN SANDY CLAYEY GRAVEL, COBBLES, AND BOULDERS (GC)</u> moist, very dense, approximately 50% gravel, cobbles, and boulders.
4							Drilling refusal at 2'.
6							No free water encountered.
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							

DATE DRILLED: 7-26-99
TOTAL DEPTH: 4.0 feet
DIAMETER: 6 inch

LOGGED BY: W. HEGGE
EQUIPMENT: CME 55 AUGER DRILL RIG
ELEVATION: Approx. 4484 feet


KLEINFELDER

RENO RAIL CORRIDOR
RENO, NEVADA

LOG OF BORING SF-12

PLATE

A52

PROJECT NO. 30-1307-10.001
January 2000

SYMBOLS



Disturbed Bag or Bulk Sample



Standard Penetration Sample
(1-3/8" I.D.)



Modified California (Porter) Sample
(2" I.D.)



Shelby Tube Sample (3" I.D.)



Water Level Observed During Drilling



Water Level Observed After Drilling

COMMENTS

NOTE: Blow count represents the number of blows required to drive a sampler through the last 12 inches of an 18-inch penetration. A standard 140-pound hammer with a 30-inch free fall is used to drive the sampler.

NOTE: The lines separating strata on the logs represent approximate boundaries only. The actual transition may be gradual. No warranty is provided as to the continuity of soil strata between borings.

©1999, by Kleinfelder, Inc.



KLEINFELDER

4875 LONGLEY LANE, SUITE 100
RENO, NEVADA 89502
Tel. (702) 689-7800

RENO RAILROAD CORRIDOR

RENO, NEVADA

KEY TO BORING LOGS

PLATE

A53

PROJECT NO. 30-1307-10.001

THE UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS				GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOIL More than 50% of the material is LARGER than the No. 200 sieve.	GRAVELS More than 50% of coarse part is LARGER than the No. 4 Sieve.	CLEAN GRAVELS Less than 5% finer than No. 200 Sieve.	PI<4	GW	Well graded gravels, gravel - sand mixtures, little or no fines, Cu>4 & 1<Cc>3
			PI>7	GP	Poorly graded gravels or gravel - sand mixtures, little or no fines Cu<4 or 1>Cc<3
		GRAVEL More than 12% finer than No. 200 Sieve.		GM	Silty gravels, gravel - sand - silt mixtures
				GC	Clayey gravels, gravel - sand - clay mixtures
	SANDS More than 50% of coarse part is SMALLER than the No. 4 Sieve.	CLEAN SANDS Less than 5% finer than No. 200 Sieve.		SW	Well graded sands, gravelly sands, little or no or no fines, Cu>6 & 1<Cc>3
				SP	Poorly graded sands or gravelly sands, little or no fines Cu<8 or 1>Cc<3
		SAND More than 12% finer than No. 200 Sieve.	PI<4	SM	Silty sands, sand - silt mixtures
			PI>7	SC	Clayey sands, sand - clay mixtures
FINE GRAINED SOIL More than 50% of the material is SMALLER than the No. 200 sieve.	SILTS AND CLAYS Liquid limit LESS than 50		PI-Below A-Line	ML	Inorganic silts, rock flour, or clayey silts of low plasticity
			PI-Above A-Line	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
				OL	Organic silts & organic clays of low plasticity
	SILTS AND CLAYS Liquid limit GREATER than 50		PI-Below A-Line	MH	Inorganic silts, clayey silts, or silts of high plasticity
			PI-Above A-Line	CH	Inorganic clays of high plasticity, fat clays
				OH	Organic clays of medium to high plasticity, organic silts
		HIGHLY ORGANIC SOILS			PT



BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

PARTICLE SIZE LIMITS

BOULDERS	COBBLES	GRAVEL		SAND			SILT	CLAY
		Coarse	Fine	Coarse	Medium	Fine		
12"	3"	3/4"	#4	#10	#40	#200	0.002 mm	

DESCRIPTIVE TERMS USED WITH SOILS

CONSISTENCY & APPARENT DENSITY		
Strongest ↓ Weakest	SILTS & CLAYS	SANDS & GRAVELS
	Hard Very Stiff Stiff Medium Stiff Soft Very Soft	Very Dense Dense Medium Dense Loose Very Loose

MOISTURE CONTENT	
Wettest ↓ Driest	Wet Very Moist Moist Slightly Moist Dry
 - Water Level Observed During Exploration  - Water Level Observed After Exploration	

©1999, by Kleinfelder, Inc.



KLEINFELDER

4875 LONGLEY LANE, SUITE 100
RENO, NEVADA 89502
Tel. (702) 689-7800

RENO RAILROAD CORRIDOR

RENO, NEVADA

PLATE

A54

PROJECT NO. 30-1370-10.001

KEY TO SOIL CLASSIFICATION AND TERMS

C:\1999\DRAWING\30130710\30130710.001-USCS.DWG